APR 1 1944

JOURNAL
of the
Association of American Medical Colleges

Volume 19 MARCH, 1944 Number 2

CONTENTS

Postwar Medical Education. *Willard C. Rappleye* 65

Effects of the Accelerated Program of Medical Schools on the Curriculum, Faculty, and Students. *Victor Johnson* 70

The Declining Standards of Medical Teaching *Joseph T. Wearn* 77

Postwar Planning for Medical Education. *Wilburt C. Davison* 92

The Place of the Small Community Hospital in Postwar Medical Education. *Lester J. Evans* 97

"Can Excellence Be Learned?" *Alan Gregg* 105

Reflections on the Textbook Situation. *William Dosite Postell* 115

Editorials 117

College News 119

General News 124

Book News 127

JUST READY - NEW (5th) EDITION

Christopher's Minor Surgery

Revised Throughout — Reset in New Type

See SAUNDERS ANNOUNCEMENT—*Just Inside*

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

OFFICERS FOR 1943-1944

President: E. M. MacEwen, State University of Iowa
President-Elect: A. C. Furstenberg, University of Michigan
Vice-President: Philip A. Shaffer, Washington University
Secretary: Fred C. Zapffe, Chicago
Treasurer: A. C. Bachmeyer, University of Chicago

Executive Council

Willard C. Rappleye (Columbia), Chairman; E. M. MacEwen (Iowa)
A. C. Furstenberg (Michigan); Loren R. Chandler (Stanford)
Maurice H. Rees (Colorado); Russell H. Oppenheimer (Emory)
W. S. Leathers (Vanderbilt); Philip A. Shaffer (Washington)

MEMBERS

Alabama

University of Alabama, School of Medicine, University.

Arkansas

University of Arkansas School of Medicine, Little Rock.

California

College of Medical Evangelists, Loma Linda and Los Angeles.
Stanford University School of Medicine, San Francisco and Stanford University.
University of California Medical School, San Francisco and Berkeley.
University of Southern California School, of Medicine, Los Angeles.

Canada

Dalhousie University Faculty of Medicine, Halifax, N. S.
McGill University Faculty of Medicine, Montreal.
Queen's University Faculty of Medicine, Kingston.
University of Alberta Faculty of Medicine, Edmonton.
University of Manitoba Faculty of Medicine, Winnipeg.
University of Toronto Faculty of Medicine, Toronto.
University of Western Ontario Medical School, London.

Colorado

University of Colorado School of Medicine, Denver.

Connecticut

Yale University School of Medicine, New Haven.

District of Columbia

George Washington University School of Medicine, Washington.
Georgetown University School of Medicine, Washington.
Howard University College of Medicine, Washington.

Georgia

Emory University School of Medicine, Atlanta.
University of Georgia School of Medicine, Augusta.

Illinois

Loyola University School of Medicine, Chicago.
Northwestern University Medical School, Chicago.
University of Chicago Medical Schools, Chicago.
University of Illinois College of Medicine, Chicago.

Indiana

Indiana University School of Medicine, Bloomington and Indianapolis.

Iowa

State University of Iowa College of Medicine, Iowa City.

Kansas

University of Kansas School of Medicine, Lawrence and Rosedale.

Kentucky

University of Louisville School of Medicine, Louisville.

Louisiana

Louisiana State University School of Medicine, New Orleans.
Tulane University of Louisiana School of Medicine, New Orleans.

Maryland

Johns Hopkins University School of Medicine, Baltimore.
University of Maryland School of Medicine, Baltimore.

Continued on Third Cover Page

Published bimonthly, January, March, May, July, September and November, at 5 South Wabash Avenue, Chicago 3, Illinois, by the Association of American Medical Colleges. Subscription price $3.00 per year. Single copies, 75 cents.

Entered as second class matter January 17, 1930, at the Post Office at Chicago, Illinois, under the Act of March 3, 1879.

(Continuing the Bulletin of the Association of American Medical Colleges)

JOURNAL
OF THE
Association *of* American Medical Colleges

Volume 19 MARCH, 1944 Number 2

Postwar Medical Education*

WILLARD C. RAPPLEYE
Dean, Faculty of Medicine, Columbia University
Chairman, Executive Council, Association of American Medical Colleges, New York, N. Y.

Medical education, along with every other phase of American life and education, has been adjusted to the all out war effort. Our endeavors to produce more well trained physicians for the military and civilian needs of the country are meeting with a large measure of success to date. As we move toward even further coordination with the national programs as the war progresses, it is inevitable that we keep in mind not only the immediate objectives but that we also retain as fully as possible the sound foundations of medical education built during the last twenty-five years upon which the postwar adjustments will be based.

The primary concern of every American is to win the war as expeditiously as possible. All of our energies should be focussed upon that purpose. Yet this Association and its individual members must be prepared to deal with the many new problems which will need to be faced when the primary task is completed. It is important that we begin to make tentative plans for the new opportunities of national and even international service that will present themselves at the termination of the global conflict.

Please note the term "tentative plans" for it is not possible at this time to predict with any accuracy the conditions which will face the country, the world, our profession or higher education at the end of the war. They will be determined in part by the length of the struggle and the extent to which our substance and resources have been mobilized and expended. That there will be a period of social and economic adjustment of the first magnitude seems certain. The reconversion and relocation of wartime industries with consequent effects upon employment, retraining and shifts in population will create severe impacts upon our national economy. The financial burdens of the country and taxes upon individuals will probably force modifications in the previous methods of providing medical services for the population. The attitudes of returning physicians discharged from the services and of the men and women who have served in the armed forces must be considered. The necessary assumption of a considerable degree of responsibility in the fields of international health, relief and rehabilitation will present many new challenges.

* Read at the Fifty-fourth Annual Meeting of the Association of American Medical Colleges held in Cleveland, Ohio, October 25-27, 1943.

The present indications are that the demobilization of the Army and Navy will be a far more orderly procedure than that which followed the last war. The Navy will probably remain at approximately full strength for many years following the close of hostilities if we are to discharge our world commitments in the era of peace and rehabilitation. The Army plans to retain a large force for similar reasons. If these events transpire we shall have no rapid mass demobilization with all the implications in employment, vocational training and education but a period of time in which plans can be executed without undue haste. The postwar period will create many demands of a non-military nature for trained experts in tropical medicine, public health, nutrition, sanitation and the whole range of scientific endeavor as we contribute, as we shall very largely, to the world rehabilitation. The demands for such services and personnel promise to be large and insistent.

One of the first problems the medical schools will face after the war is the adjustment of our programs to a basis approximating a normal educational pattern. The accelerated training initiated by the medical schools even before our participation in the war was designed as an emergency measure to produce medical officers as rapidly as consistent with reasonable standards. Everyone realized the temporary nature of the plan and its inadequacies. Although we may preserve the form of medical education not all of the substance can be retained under war conditions. But the accelerated program is serving a highly important place in the all-out war effort.

The questions raised by at least a partial return to the earlier educational pattern can be answered only at the proper time. The deceleration and adjustment of the curriculum, for example, will be influenced by the date and year of cessation of hostilities in relation to our academic calendars. The "unwinding" will be as much a problem as the condensation was. For a period of several years the classes probably will be carried through irregularly until the war groups are graduated. Since the war time programs are accompanied by a reduction in the length of premedical preparation, by a method of selection of students which will discourage the ablest and most promising potential medical trainees and by a lowering of the level of professional education because of inadequate teaching staffs and overworked students the return to normal performance will be made more difficult. Returning staff members will have to be fitted back into their activities. Many students now financed by the government will have individual financial problems although present indications are that liberal assistance through severance allowances, government scholarships and federal loans will be available for students where needed. All of you will be interested in the study on this phase of postwar education published by the American Council on Education (Bulletin No. 57).

Probably there will be a considerable drop in premedical students for a time as schools reestablish as promptly as possible the standards of premedical preparation necessary for the modern study of medicine and for community, scientific

and professional leadership. Many students will have had irregular, inadequate or interrupted preparation. The admission procedures will probably be rather flexible for a time. In this connection attention should be given to the timely, thoughtful report of the Commission on Liberal Education appointed by the Association of American Colleges which aimed to emphasize enduring human needs, the free status of institutions of learning in a democracy, the recognition of aptitudes, flexibility and achievement rather than academic credits and fixed programs of study and the purposes of a liberal education.

Two points may be emphasized in this general situation. The adjustment will afford an excellent opportunity to reexamine the curriculum and teaching procedures. Perhaps the most important objective to be sought is a close integration of the entire medical course into a single unit of education rather than a series of more or less isolated subjects. An opportunity will be afforded to reevaluate methods of instruction in which we endeavor to teach too many subjects in too great detail. "It is an axiom that true education, particularly at the professional level, is self-education. Medicine must be learned by the student if he is to develop judgment, discrimination, and intellectual self-reliance.

"The newer aims and methods place greater responsibility on the student for his own training. The crucial element in medical education is the student, upon whose character, interest, preparation, ability and industry so largely depend the results of medical training."*

Reorganizing our program of professional education will also afford an opportunity to give proper importance to subjects recently brought into prominence. It is apparent that more emphasis than heretofore should be placed upon parasitology, the medical and health problems of the tropics, psychosomatic medicine (which accounts to date for one third of our casualties), chemotherapy, the special diseases of adult and old age, biophysics, genetics, industrial medicine, public health, legal medicine, the care and treatment of trauma, especially burns, injuries and shock, nutrition, the correction of physical defects, aviation physiology, and the broad range of environmental factors in health as well as disease. It will not be possible nor desirable merely to add these topics to the old curriculum. The whole structure of medical instruction will have to be examined in the light of present day requirements. In many instances existing departments and programs will have to be reorganized and vitalized.

Many young medical officers will have had a hurried, somewhat abbreviated medical course in which the basic scientific preparation as well as clinical experience has been inadequate. The shortened internship and absence of residency responsibility and training for many future medical officers will bring large numbers of demobilized physicians back for graduate and postgraduate education. If, as expected, the medical schools will decelerate after the war and will have a reduced student enrollment for a few years, a great opportunity will be

* Final Report of the Commission on Medical Education.

provided for the medical schools in cooperation with affiliated hospitals to assist returning physicians to make up for their deficiencies, not only in clinical fields through residencies and clinical instruction but also in the medical sciences. The laboratories and clinical facilities will be taxed to meet the demand. The schools may be able largely to bridge the lean financial years following the war by graduate and postgraduate courses and to utilize their facilities and staffs in the highly constructive task of assisting recently graduated physicians to make up deficiencies in their training before entering civilian practice. It is in that same period of lowered enrollment of regular students that the staffs of the medical sciences may have opportunity to recapture their stride in research which has been seriously interrupted by the accelerated program and the withdrawal of younger members of the departments for military service. During the less strenuous period investigations in important clinical fields not related to the war effort should have every encouragement.

It seems reasonable to assume that the profound social and economic conditions that are likely to follow the war will necessitate significant changes in medical practice. The close relationships between income and sickness both as cause and effect, and between conditions of employment or housing and the community as well as individual health, as illustrations, suggest that the problems of medical care can not be divorced from those of unemployment, old age, income, living conditions and other features of social security. The recent presentations in Great Britain of the Beveridge Report, the Medical Planning Commission of the British Medical Association and Medical Planning Research and in this country of the Murray-Wagner-Dingell bill in Congress and the numerous activities of the medical, hospital and public health groups indicate the public interest as well as responsibility of the profession.

Illness occurs unevenly in the population and is unpredictable for the individual or family. The economic burden, therefore, is also unpredictable for the individual. For large elements of society the problems can be met only through collective provisions for medical care which aim to distribute the costs over a large group of the population and over a long period of time. It is these considerations that have led to various forms of sickness or hospital insurance as well as the growing participation of governments during the last half century in health and medical services.

This is not the occasion to speculate on the future plans for medical care. There is need in most urban as well as rural communities for sound planning by competent lay and professional leaders to provide for the entire population adequate facilities and personnel for the modern practice of medicine. The unsatisfactory distribution and utilization of medical manpower even under the stress of the national emergency points to the need of better planning and wise professional leadership if medicine is fully to meet the task before it. The essential feature of a well conceived program is the quality of the service rendered. A competent and effective scheme is dependent upon trained personnel who keep

abreast of current knowledge and competent in its application. Medical education is primarily concerned with the qualifications and preparation of students to practice medicine and to provide medical leadership. It is most important, therefore, that the professional education be permeated with an understanding and presentation of the basic social and economic problems and trends with which medicine is expected to deal and which also are likely to modify the forms and opportunities of practice in the future.

It is quite evident that a series of challenging problems will meet the medical schools and universities upon completion of the present task which until successfully concluded should have our undivided attention and command our full energy. The post war period promises to give unparalleled opportunities for public and even international service. It is fervently to be hoped in those interests that the standards of academic, scientific and professional achievement may be retained and advanced. To this end every medical school and this association should pledge support. By a unity of high ideals and purpose we shall be able to go forward with satisfaction and by discharging the community and public responsibilities which we should assume to enjoy the esteem and confidence of the society of which we are an important part. A plea can be made that the medical schools continue during the war to cooperate even more closely with each other in order that they may meet the challenge of the peace which from present indications may require even more wisdom and courage than that of the war.

Effects of the Accelerated Program of Medical Schools on the Curriculum, Faculty, and Students*

VICTOR JOHNSON
Associate Professor of Physiology, University of Chicago School of Medicine, Chicago, Illinois

The assignment of this committee, consisting of Dr. James A. Greene, Dr. Francis Swett, now deceased, and myself, was to discover and evaluate those features of the wartime educational program which would seem to warrant continuation in an improved program of medical education after the war. The most discussed and the most important wartime change is acceleration. Should this plan be continued after the war? Answers to this question by deans vary from: "We are returning to our former program at the earliest possible moment," to: "We would like to continue acceleration indefinitely." Many are undecided, and are awaiting further evidence of the effects of acceleration on students and faculty, on medical education and research.

Unfortunately, it will be impossible to evaluate objectively the effects of acceleration per se. Besides acceleration, other variables have simultaneously been introduced into our experiment and causal relationships are obscure. If it is true that the faculty is too overworked to do a good job, if research has been drastically curtailed, if the student has insufficient time to digest and assimilate, if student health is being impaired, can these undesirable results be ascribed to acceleration? Are not these effects also the consequence of other changes not inherent in the accelerated program, for example: Medical school faculties have been seriously reduced in size. On July 1, 1943, the number of faculty members in service from the seventy-six schools had increased to 5,637 and is still increasing. Further depletion of faculty has resulted from participation in war research. In twenty-one of the seventy-six medical schools, one hundred and thirty members are engaged in full time war research. This relatively small number represents serious losses in teaching staff in some critical areas, since most of these men were recruited from the full-time faculty roster, mainly in the basic sciences. Furthermore, the figure includes only those on full time war research. The total loss in teaching manpower is much greater, since even larger numbers of teachers are devoting a considerable part, but not all, of their time to war research. Further, the added curricular material introduced, such as war medicine, tropical medicine, aviation medicine, first aid, and other topics, increases the teaching load of the reduced faculty. It is legitimate to question whether the factor of reduced faculty does not contribute even more than acceleration itself, to such reduction in quality of instruction and interruption of normal research programs as has occurred.

---

* Read at the Fifty-fourth Annual Meeting of the Association of American Medical Colleges held in Cleveland, Ohio, October 25-27, 1943.

Several factors apart from acceleration have undoubtedly exerted a deleterious effect on student performance, morale and even health. Uncertainty of the future is the keynote of the present medical student generation. At first the disturbing questions were: Will selective service permit me to continue my education? Do I want to remain in school at such a time? There still remain such questions as: Will my internship be curtailed to even less than nine months? How adequate will my training be, since I will probably be allowed no hospital training beyond the internship? What will be my assignment in the service? How long will the war last? Will I be ordered to an occupied country after the peace? How many years will it be until I can resume hospital training, or make definite plans for my life work? Can I get further training when I return? Will I be crowded out by new generations of students? With these, and many other uncertainties, it is small wonder that many students are tempted to say: "What's the use? I'll do enough to get by and hope that circumstances

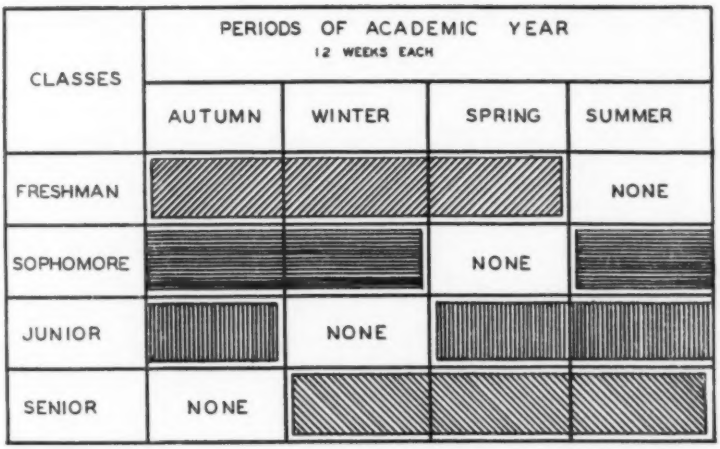


FIG. 1.—ATTENDANCE IN A SCHOOL WHICH IS ACCELERATING, BUT ADMITTING A NEW CLASS ANNUALLY.

beyond my control will not be too rough on my future." This is not to say that medical students are not eager to serve in the war. There is no doubt about the practically universal desire to share the burden. This very wish has contributed to student uncertainty and has affected adversely the medical school work of many who would like to participate more actively. Note that these uncertainties have nothing to do with the accelerated program, and their results are not the consequence of acceleration.

Casualties among medical officers in the war—and we cannot predict the numbers—may necessitate a continuation of accelerated production of replacements for a time after the war. The subsequent discussion relates to the program after that adjustment period.

The accelerated program can be continued, with a preservation of its desirable features, and an elimination of much that is undesirable, provided new classes are admitted only once a year. Admission of new classes every nine months is not necessary in acceleration. Figure 1 shows the resulting attendance throughout a typical year in a school which is accelerating, but admitting a new class annually, in the autumn quarter. Note that there are no freshmen in school in the summer quarter. This will be true every summer, because all freshmen will have completed their "first year" and will pass on into sophomore work each summer quarter. Sophomore work will run through the summer, autumn and winter quarters of each year, and every spring quarter will find no sophomores in school. Similarly, there will be no juniors in the winter quarter, and no seniors in the autumn.

It follows that any instructor who teaches only freshmen, for example, will always have the summer quarter free from teaching. Instructors, in general, will have either no teaching or a greatly decreased load for one quarter of the year, practically as if the entire school were closed for instruction during the summer.

Such a plan conserves certain desirable features of the accelerated program, such as the saving of time spent by the student in school and the better utilization of our expensive plants, especially hospitals. It eliminates some of the serious objections to the accelerated program as it now operates, with admissions every nine months. The annual number of graduates is the same as that of the conventional prewar program. The staff has no more teaching and there is as much free time available for research, especially on the return of teachers in the service of the armed forces. This restoration of research to its former place is an absolute essential after the war. Entirely apart from the obligation of medical schools to extend knowledge through investigation, research by the faculty is essential to the conduct of an adequate educational program in undergraduate medicine. A teacher who does not do any research is only partly a teacher. A school weak in research cannot hope to attract strong men to its faculty.

Since there will be no juniors in the winter, and no seniors in the autumn, reducing the number of students in clinical work by one-half, for one-half of the year, the clinical teaching program can be improved in those schools with limited teaching material.

The very real temptation of some schools to continue acceleration because of increased tuition income will not exist because a school enrolling 100 students in each class will have only 300 students in attendance in each of the four quarters, and will receive no more tuition than with 400 students attending for three quarters and no students in the summer.

Certain problems will still remain, pertaining primarily to students. Loan funds for the support of deserving and needy students must be available. For the year ending June 30, 1943, $977,700 from the Kellogg Foundation, and $1,063,573.75 from the Federal Government were loaned or granted to medical students on the accelerated program, a total of about $2,000,000. Loans made

by the government to students in a number of accelerated curriculums totalled only 60 per cent of the amount estimated to be required. Five million dollars were appropriated, and only three million dollars were used in the first year. Whatever may be the source of these loan funds in the future, whether from foundations, the schools themselves, or the Federal Government, the interest rate should be sufficiently high to cover all administrative costs and inevitable losses, so that when repayments commence, the fund will be self-perpetuating.

That the accelerated program itself allows insufficient time for the student to master the material remains to be demonstrated. It has not yet been possible to test the effects of acceleration alone, apart from the other disturbing factors now acting deleteriously on student performance. It is not clear why a medical student should be able to do good work for only three-fourths of the year, and why he requires twelve or more weeks each year away from his job. There is no apparent justification for requiring a student to spend an extra nine months or a year in medical school or for an annual waste of 5,000 physician years. Immediately on graduation, the student will embark on a work program in his internship and residencies in which he will rarely have more than two weeks of respite from work. This will probably continue throughout a lifetime in the practice of medicine. There seems to be no good reason why a student, on graduation, should suddenly cease to require a three months' diversion from medicine, and abruptly become an individual requiring but two weeks. The accelerated program can allow intermediate vacation periods totalling four or five weeks. Properly spaced, this should be ample for any adult.

In any case, acceleration should not be compulsory, so that the student who wishes to spend an extra academic year in some field of special interest may do so. In fact, this should be encouraged in the case of superior students with special talents and interests.

The traditional curriculum of our medical schools, with or without acceleration, is wasteful of student time. Time for elective work, reading and assimilation should be made available by culling from our courses a large amount of that material presented apparently with a view to making the student in turn an anatomist, a biochemist, a physiologist, or a surgeon. Almost universally, instructors state that the time allotted them is inadequate. Almost universally, instructors could do a better job with less than the allotted time and a more careful selection of material.

A more rational and time conserving curriculum than our present one, which postulates that the human body may be divided into its anatomy, its biochemistry, its physiology and its pathology, would be one in which there were no anatomy or biochemistry or physiology or pathology "courses" at all. Instead, the anatomist, the biochemist, the physiologist and the pathologist would collaborate in presenting an integrated picture of the body in health and disease, in which accidental repetition is eliminated, and planned repetition incorporated when

required. For example, the joint presentation of the nervous system might employ an interdepartmental syllabus of topics, readings, references and laboratory instructions covering the microscopic and gross structure, the normal physiology and the derangements of that system, the sequence of daily topics being determined by the collaborating instructors without regard to their departmental affiliation. This seems more rational than presentations of parts of this single subject separated by variable intervals of time, under the direction of instructors who have rarely worked through adequately with each other, the best way to present the nervous system in its various aspects. Such a program would be more stimulating than the current relatively independent "courses," and would conserve time for library or laboratory exploration of the unsolved and the unknown. Largely

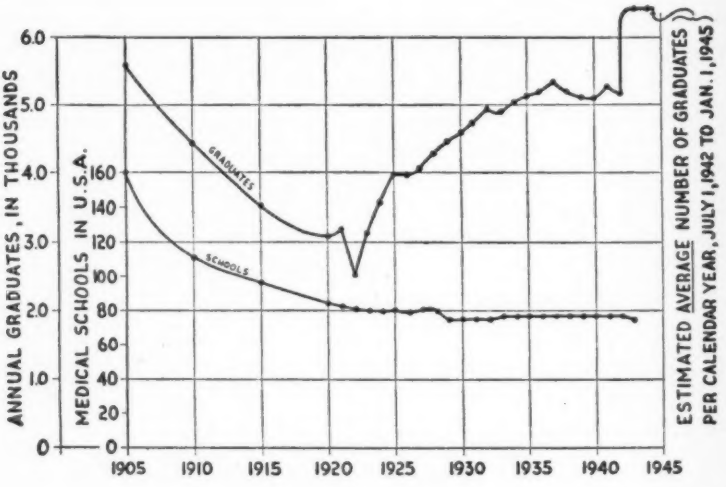


FIG. 2.—NUMBERS OF MEDICAL SCHOOLS AND MEDICAL GRADUATES IN THE UNITED STATES SINCE 1905.

under the guidance of Dr. James A. Greene, this plan has been operated successfully in the didactic clinical instruction at Iowa, but need not be limited to didactic or clinical work.

Some of the subject matter introduced into the curriculum or especially stressed since the war began will probably justify its permanent inclusion into the medical program. The shrinking of world distances through modern methods of transportation will bring tropical medicine to our doors. Industrial medicine and public health are expanding fields. Preventive medicine will increase in importance and color the thinking, teaching and research in all divisions of medical science. Chemotherapy and control of shock are not limited to war.

Little can be said at present about the effectiveness of the Army Specialized Training or Navy V-12 premedical programs. These accelerated programs differ in two important essentials from the medical accelerated programs:

First, the premedical programs are accelerated not only by employing practically the entire calendar year for instruction, but by very greatly increasing the quantity of work done by the student per day or per week. Whether students can successfully carry this load remains to be determined when the programs have been in full operation for a time. Serious doubts about the quality and breadth of the preparation of education of premedical students have been expressed. It is highly probable that the degree of acceleration involved in these Army and Navy programs will not and should not be continued after the war.

Second, all premedical students are subjected to a standardized curriculum. This may be necessitated by the large number of institutions which will participate. In some of the weaker schools attempts at standardization might improve quality. It is questionable whether such nation wide standardization is desirable as a permanent measure.

A problem which must be faced squarely is whether, after the war, our schools will be adequately equipped to produce superior doctors in the numbers graduated before the war, and before acceleration. Figure 2 shows data on the production of doctors in the past forty years. In 1905, the 160 medical schools in the United States produced 5,606 graduates. There followed a decrease in graduates parallel with the decrease in number of schools, resulting from the closing of many proprietary schools and the enforcement of high educational standards. Despite an essentially unchanged number of medical schools in the last two decades, the number of graduates has increased until before the war there were about as many graduates from seventy-seven schools as there had been from twice that number in 1905. This upward trend is probably warranted in the cases of those schools which have significantly increased their facilities, faculties and financial status. But in many cases schools have yielded to pressures for increased enrollments which have not been justified and have resulted in a decrease in quality of graduates. It is open to serious question whether there has been an over all 70 per cent increase in our hospital teaching beds, in laboratories, equipment and staff, warranting a 70 per cent increase in graduates during the twenty years before the advent of the accelerated program. It was beside the point to argue that more doctors should be graduated because certain areas in the United States were inadequately provided with doctors, even in peacetime. The problem of distributing medical care is distinct from that of total numbers of doctors. Simply increasing the production of doctors is as likely to increase the crowding of physicians in urban centers as it is to provide doctors for areas needing them most.

Equally as important as numbers, or even distribution of doctors, is the question of the postwar status of the practice of medicine in this country. Medi-

cal schools generally have failed in their responsibilities to students in not providing instruction or stimulating discussion in this vital area. "Prepayment plans," "costs of medical care," "hospital insurance," "group practice," "compulsory medical insurance," "the Beveridge Plan," "the National Resources Planning Board," "social security," "the Wagner-Murray-Dingell Bill," "socialized medicine" are terms as vital to doctors and medical students as "sulfa drugs," "electroencephalogram," "renal hypertension." Opportunities should be provided by medical schools for unbiased consideration of these problems in the same scientific spirit of inquiry as that which is the basis of our presentation of the science of medicine. Students should begin to learn in medical school about the many experimental plans for medical care now in operation under the auspices of railroads, industry, insurance companies, hospitals, clinics, and county and state medical societies. The news columns and editorial pages of daily papers are no more suitable sources of information about these matters than about recent developments in the practice of medicine. We are shirking our duty if we are content to state knowingly "Medical practice will not be the same, after the war," and leave the student to cull out such scraps of further information as he may from miscellaneous sources.

We are not stimulating our students to think through these problems. We are graduating them with equipment to practice good medicine, but without adequate knowledge and understanding to cope with the problems of relating that practice to new social conditions in a rapidly changing world.

The Declining Standards of Medical Teaching*

JOSEPH T. WEARN
Professor of Medicine, Western Reserve University
Cleveland, Ohio

It would be futile to attempt to describe the present day methods of teaching medicine, because plans and methods for today may be changed by tomorrow, and each successive change, thus far, has lowered the standards of medical teaching, especially in the clinical branches. The situation has now become serious.

After the outbreak of the war, it was obvious that the armed services would need an increasing number of well trained physicians. This meant that somehow more men must be graduated and that standards must be maintained. What have the medical school faculties been able to do in the past two years to meet this demand? And what has occurred within the medical faculties themselves? Several medical units, previously organized in the teaching hospitals, were called to active duty; many individuals, from the teaching staffs and from practice, enlisted, and entered service; some medical schools, acting independently, increased the size of their classes; and the executive committee of the Association of American Medical Colleges voted to recommend acceleration of the curriculum, and announced it to the newspapers, without previous consultation with those engaged in the actual teaching in many of the schools.

It was generally recognized by the teaching members of the medical faculties that an accelerated program would be inevitable due to the increased war needs. It was not so much the fact that the accelerated program had to come, as it was the way in which it was suddenly foisted upon those who actually did the teaching, and who had to carry on the program. They felt that the whole matter should have been approached thoughtfully and carefully, with thorough consultation and discussion, and an orderly plan put into operation, that would have safeguarded the standards of teaching as well as the quality of the graduating physician. This hasty action, taken by the executive committee of the Association of American Medical Colleges, undermined the confidence of a great many of those actually carrying the teaching load in the medical schools, in that committee and threw unnecessary confusion into the program at the outset.

For the various reasons enumerated above, the staffs of many teaching hospitals were reduced by 50 per cent, and in some instances, they lost 60 per cent. Instantly, all teaching duties for the remaining skeletal staffs were doubled, and the teaching year was increased from a nine to a twelve months basis. The vastly augmented load of medical care of the community became staggering for

* Read at the Fifty-fourth Annual Meeting of the Association of American Medical Colleges held in Cleveland, Ohio, October 25-27, 1943.

the part time teachers, and at the same time the draft boards demanded more hours of their time and energy.

Subsequently, the Procurement and Assignment Service went into action and brought increasing pressure upon the remaining younger members of the teaching staffs. For those schools, whose departments were originally composed almost entirely of young men, the situation became critical. The pressure undermined morale to a serious degree. The arbitrary decisions of a remote, small committee to force enlistment of younger members of teaching staffs, regardless of local conditions, would have produced a near catastrophe, had they been enforced in full. This committee decided arbitrarily how many men should be taken from each faculty, without taking the trouble to look into the local situation—to determine whether such men could be spared without seriously damaging the teaching service, or whether there was any possibility of replacing them. As it was, some teaching staffs, already handicapped, suffered further loss of personnel as a result of the conflicting pressures from local, state and national offices.

For those actively engaged in the teaching of medicine and struggling with almost insuperable difficulties, these arbitrary and undiscriminating directives, issuing from a well meaning committee, looked as though they would defeat the primary objective,— i. e., to produce more well trained physicians. The most urgent representations to the effect that medical teaching was being damaged, fell on deaf ears. The medical educator, therefore, was face to face with a serious and unnecessary deterioration of teaching standards and apparently helpless to remedy the situation. It was realized that the Procurement and Assignment Service, while charged with the responsibility of maintenance of civilian medical care, had at the same time to meet the insistent demands of the armed services for more and more physicians, and that their position was not an easy one.

In the meantime, matters were not made easier by the demands made by the Office of Civilian Defense and the Draft Boards on these same men. In addition, the increased nursing program called for still more of their time for teaching nurses, and the greater number of medical students was now making itself felt. New subjects in the curriculum, due to global warfare, became imperative, and resulted in temporary detachment of members of the teaching staff for special study in the tropics.

On top of all this, there arose the exceedingly urgent matter of researches growing out of acute needs of the armed forces. The only people left to undertake these researches were those already carrying the loads described above. The Procurement and Assignment Service proposed as a remedy for the shortage in personnel, for all the teaching, research and other activities, women, the crippled and disabled, and refugees.

Further undermining of medical education was achieved by a series of bureaucratic directives affecting the teaching fellows, residents and interns. In-

ternships, formerly staggered, were put on a one year basis, involving an overlap of three months, which twice yearly resulted in doubling the intern staff and thereby halving the facilities for their training during this time. Residents and teaching fellows' appointments were reduced from four years to two years, rendering these men less expert in handling their important part in the training of students. Finally, came the order to reduce the internships from one year to nine months.

In this war young medical officers, fresh from their internships, are given graver and heavier responsibilities than ever before, and to equip them for this, the very best internship should be provided. Instead, a truncated internship has now been made compulsory. In addition, the Procurement and Assignment Service, with the support of the Surgeons General of the Army and Navy, has taken a step which will deprive many of the students of internships in teaching hospitals—admittedly the best qualified to assure them excellent training—thereby forcing them to hospitals not well equipped for training interns. The whole emphasis has been on quantity with little attention to quality, and, thus far, there is no evidence that the seriousness of this mistake has been recognized or that steps are being taken to correct it.

To complete the picture, the student body was inducted into service. In some instances too much emphasis was placed on drill, while in others the students were put into barracks, unsuitable for living quarters or for study. Beset by constant uncertainties as to their future, the students' concentration on their medical education has suffered. The general report is that already the morale of the students has deteriorated and their performance is definitely lower.

The plan to have the Army and the Navy determine criteria for selection of medical students of the future, is fraught with the gravest danger. In so doing, the Services are entering a field in which they are without experience, displacing those who have become expert in this very highly organized and specialized work, through years of experience, namely, the deans and admissions committees in the medical schools. And this at a time when the opprobrium of selecting a scientific training tends to send the best students into the fighting branches of the Services. This may well prove to be one of the most disastrous changes affecting the production of good medical men. Choosing good medical students even in peace time, is a most difficult matter. Most of the schools have selected their students after personal interviews by experts and after thorough investigation of their past records, involving scholarship, performance, character and personality. Even so, mistakes are made. Every school knows that the calibre of its students determines the quality of its graduates and eventually of the medical profession. What can be expected in the future when the army proposes to select medical students by number rather than by name? Before this plan is put into effect, serious consideration should be given to whether or not students, so selected, will be able to graduate.

Small wonder, then, that the teaching of medicine has deteriorated! Tired, distracted Army and Navy medical students are taught by a skeleton of overburdened staff members constantly harassed by changing directives, and the end result is just what one would expect it to be.

Not one of these members of the teaching staffs but would prefer to be on active duty with the Services. Not one of the younger teachers but has been made to feel that he should be in active service, instead of in academic medicine. Not one who complains of the load that he is carrying, but seeing the standards of the school deteriorate and less good products emerge, is profoundly disturbed. For the lowering of the standards will be felt at just the time when the world at large will desperately need, not the average physician, teacher and scientist, but the finest men which the profession has to give.

It is realized that in war time every group should make sacrifices—work much longer hours, and carry heavier loads. No one can question that this is recognized and gladly accepted by the medical school faculties. A faculty reduced to a certain degree may still maintain standards by doubling its load, but when the reduction goes beyond the level at which standards can be maintained, it follows that the physicians turned out must be inferior products. It is these last standard reducing cuts which seem so unwise and wholly unnecessary to the medical educator. For the handful of physicians so acquired by the armed forces will in no way compensate for the disastrous loss in standards and for the inadequately trained physicians which the Army and Navy will receive. It is only the unusual physician who makes an able teacher, and then, after years of training. In taking too many qualified teachers, therefore, the armed forces are destroying the goose that lays the golden eggs.

Never has a generation of medical men been faced with such challenging problems;—the care of the war casualties involving aviation, tank, tropical medicine and other new problems; the care of the civilian health so vital to the war effort; leadership in the vast reconstruction of public health and nutrition in the liberated countries; and finally, the wholly uncharted field of convalescence and rehabilitation in this country. Is it right to allow our standards of medical education and the calibre of our medical men in this country to deteriorate in the face of such problems?

To find constructive remedies for this situation is most urgent. Out of the welter of mistakes and confusion of the past two years emerges the fact that the men actively engaged in the teaching of medicine have failed to make their voices heard. Policies have been formulated by the armed services, as a result of advice from organizations or their executive committees, which not only do not represent the viewpoint of those actively engaged in teaching students and interns, but who, for the most part, have not counselled with them. Those actively engaged in the teaching of medicine have failed to take the necessary steps to get together and present their views. For all the reasons given above, it is obvious

that they have been so absorbed in trying to do the task in hand, that they have neither had the time to stop and think nor to take active steps in organizing group leadership. This in no way exonerates them.

Now, it is becoming generally recognized that a grave threat to the standards of medicine has been brought about. In the short sighted haste to procure more doctors, the fundamental issue has been lost sight of, that is, the quality of the physician. The Armed Services and the Procurement and Assignment Service should be the first to demand the highest standard of physicians and should take steps immediately to see that the standards of medical teaching are restored, but, in the last analyses, it is the teachers of medicine themselves who must maintain their ideals, and defend the standards of teaching.

DISCUSSION

ON PAPERS OF DRS. RAPPLEYE, JOHNSON AND WEARN

DR. WILBURT C. DAVISON (Duke University School of Medicine): These papers have so completely covered the subject that all I can do is to try to summarize the following five points.

The first is postgraduate medical education. All of us have received letters from men in the armed services asking the question, "What training can we get when we return?" The only good postgraduate education we can give is through internships, residencies or fellowships in hospitals. I am sure that the questionnaire which the American Medical Association has sent out, asking the medical schools to increase their number of appointments, will be complied with. At Duke, we shall double the appointments. In my own field, instead of four interns and two residents in pediatrics, we shall appoint eight interns and four residents. Although these positions will be only half as good as the smaller number, they will provide more satisfactory training than refresher or brush-up courses. After the war, returning medical officers will be given three to six months pay, which will carry them through six to twenty-four months of postgraduate hospital experience.

The second point, namely, the accelerated program, has been very ably presented by Dr. Johnson. I hope that many schools will continue the accelerated four-quarter or three-semester schedule on a voluntary basis. There are certain advantages and disadvantages. I think the disadvantages have been overemphasized and the advantages have not been brought to the fore quite as accurately as they should have been. The four-quarter program has been voluntary at Duke for the ten years prior to Pearl Harbor, and 56 per cent of our students were graduated in less than four calendar years. Since December 17, 1941, the accelerated schedule has been compulsory.

Thirdly, in order to carry out the accelerated schedule or any program of medical education, loan funds must be available. Our experience for the past thirteen years is that a loan fund of $12,000 a year has enabled every medical student to continue his course. The loan funds from the W. K. Kellogg Foundation and from the U. S. Office of Education of the Division of Higher Education of the Federal Security Agency have been of tremendous help, and I hope they will be continued after the war. Loan funds are more advantageous than are scholarships.

Dr. Rappleye has emphasized the fourth point of premedical education, which is one of the defects of present medical education. Before the war, the average graduate,

after he had four years of college, four years of medical school and one year in hospital, was 27 years of age. Dr. Rappleye's report of the Commission on Medical Education showed that the success of a physician was in direct proportion to the length of his hospital training. Students ought to sacrifice their senior year in college for an additional year in hospital work. They would be a year younger at graduation from medical school and be much more likely to take the greatly needed additional hospital work.

The fifth point which has been emphasized by the preceding speakers has been the need for the reorganization and integration of the medical school curriculum. In addition, four subjects must be included: (1) Not only is tropical medicine the biggest war problem but it will greatly affect civilian practice after the return of the Armed Forces. Epidemics of malaria spread through New England in 1898 when the troops came back from Cuba and Puerto Rico. Malaria was unknown in England prior to 1914, but they still have it from the troops who returned from Saloniki in the last war. (2) The need for and the advantages and disadvantages of general practice should be presented to medical students. Dr. Weiskotten's figures show that 60 to 75 per cent of the present graduates are or are planning to be specialists, but only 15 per cent of the illnessses require specialists. (3) The opportunities in country practice should be discussed in medical schools. One county in North Carolina before the war had one physician for 5,164 individuals, yet in the country as a whole the ratio is 1:719. This maldistribution is due to the difficulties which a country boy has in getting a medical education without loan funds and the erroneous idea that country practice is unattractive. For the last several years some of the general practitioners have taken interns as substitutes for two or three weeks, so that they could go off for postgraduate work. Many of the interns who have had this experience have later gone into general practice in the country and have liked it. (4) As Dr. Rappleye and Dr. Johnson have stated, socialized medicine is being extended. In pediatrics, which is becoming a public health specialty, the trend is much more marked than in any other field. For example, in Durham, N. C., fifteen years ago less than 1 per cent of the infants were brought to the free clinics. Now the percentage is somewhere between 10 and 20. We must provide training for salaried positions. Postwar graduates and returning medical officers should study the plans for the distribution of medical care.

Dr. E. Stanley Ryerson (University of Toronto): I was delighted to hear Dr. Rappleye's paper and to hear him pour forth, in much better language than I could, many of the ideas that I have myself. That has been the case for many years with Dr. Rappleye, either I get a little bit ahead or I get a little bit behind. I have a little different point of view to put, I think, that will have to be considered in the future of medical education.

I am going to begin by reading a paragraph of a paper by John A. Ryle in the *British Medical Journal*, December, 1942, called "The Science of Health." He is Regius Professor of Physic, Cambridge University, England, also consultant in medicine at Guys Hospital, London. He is to London what Wm. Osler was to Baltimore, Richard Cabot was to Boston and Jas. B. Herrick was to Chicago.

"For my annual wartime lecture I have chosen on this occasion a subject which, curious though it may seem, finds no special place or mention in the curriculum. Medicine is primarily concerned with the observational study (with a view to its relief) of disease at the bedside, in the consulting room or clinic, and in the laboratory. Disease also has its own science of pathology, which is concerned with the more intimate laboratory investigation of its causes, processes, and consequences. But, notwithstanding that the study of health would seem to be the proper preliminary to the study of disease, we find no counterpart to medicine, no parallel observational science devoted to the fireside or field side or laboratory study of health. Nor is there a science comparable to pathology which deals with the more intimate causes, processes, and consequences of health."

In the right column is a schematic representation of the clinical part of the medical course. Pathology as the science of disease is concerned with the study of the sick person. In the study of man's structures and functions in relation to disease, their gross changes are taught in pathological anatomy, their microscopic ones in pathological histology, and so on. We investigate the symptoms of disease in the sick person in the history, the signs in the physical examination and from these we make a diagnosis of the disease and the methods of treatment to be used, medical, surgical, etc. Then the prevention of disease and public health complete this division of the course.

MEDICAL CURRICULUM
as proposed by
E. Stanley Ryerson, M.D., C.M.,
Assistant Dean and Secretary
Faculty of Medicine, University of Toronto

I. **HYGEIALOGY**	I. **PATHOLOGY**
The Science of Health	The Science of Disease
The Causes of Health	The Causes of Disease
II. **MAN'S STRUCTURES AND FUNCTIONS IN RELATION TO HEALTH**	II. **MAN'S STRUCTURES AND FUNCTIONS IN RELATION TO DISEASE**
Hygeialogical Anatomy	Pathological Anatomy
Hygeialogical Histology	Pathological Histology
Hygeialogical Physiology	Pathological Physiology
Hygeialogical Chemistry	Pathological Chemistry
Hygeialogical Psychology	Pathological Psychology
III. **THE WELL PERSON**	III. **THE SICK PERSON**
Manifestations of Health	Symptoms of Disease
History of Health	History of Disease
Physical Signs of Health	Physical Signs of Disease
Physical Examination	Physical Examination
Assessment of Health	Diagnosis of Disease
Disposal of Well Person	Disposal of Sick Person
Maintenance, Promotion or Restoration of Health	Curing of Disease
Methods	**Methods**
Physical Activity	Medical Treatment
Nutrition and Metabolism	Surgical Treatment, etc.
Mental Hygiene	Restoration of Convalescent Person to Health
Adjustment to Environment	
Prevention of Disease	Prevention of Disease
Private Individual	Public Health
Personal Health	
Public Health	

1943.

In the left column is a proposed plan of the premedical part of the medical course. I think that this part should have a definite name and objective of its own and propose hygeialogy, a composition of hygeia, "health," and logy "the science of" (analogous to mineralogy) as one suitable for this whole conception of health and the well person.

The study of man's gross structures and their relation to health is called hygeialogical anatomy; the microscopic knowledge of the tissues, hygeialogical histology and similarly there is hygeialogical physiology, chemistry and psychology from the same point of view.

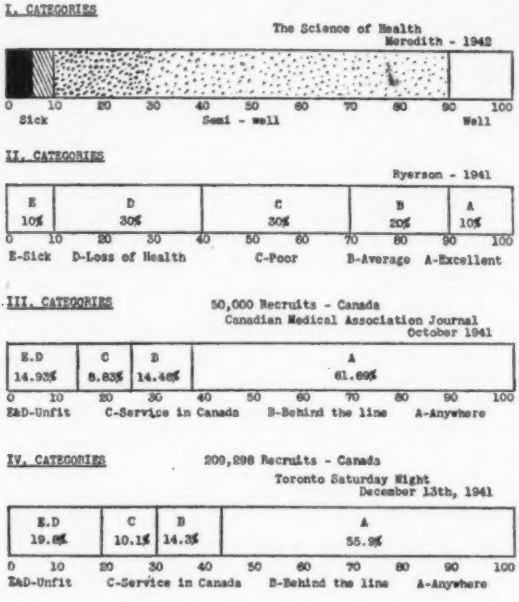
Then the well person is studied, learning the manifestations of health (instead of symptoms which are concerned with disease) from a history of his health by asking "How healthy an individual have you been during your life?" Most life insurance examination forms contain but one question regarding health compared with a long list about the diseases he may have had in the various body systems. The physical signs of health are found on physical examination and on the basis of the findings in both of these, his health is assessed and category determined. This procedure is being followed in the admission of men into the Army.

Having found the category in which an individual is placed, then advice may be given as to the methods, of maintaining his health if his category is at a high level,

of promoting it, if it is at a medium one, or of restoring it if he has lost his health. The methods used to bring about these results are physical activity, nutrition and metabolism, mental hygiene and adjustment to environment.

The methods of prevention of disease are applied from the standpoint of the individual, i. e., personal individual health, which is not included in the medical course where its application is largely to public health. I may say that this is the curriculum of a new school of physical and health education in the University of Toronto. The Board would not quite accept hygeialogy as a title. They thought that there might be confusion as this name is not known, whereas health education and physical education are.

A three year course leading to a degree of Bachelor of Physical and Health Education (B.P.H.E.) is given for qualifying teachers in the secondary schools to teach a



sound, scientific knowledge of how the human body is made and how it works. This course is virtually a combination of the first two years of a medical course (exclusive of pathology) taught from the point of view of its application to health, with a course in physical education. Instead of combining the latter with an Arts course as is done in so many of your teacher colleges, it is joined with the preclinical years in medicine to constitute a course in health education along with physical education.

The first graph published by Florence Meredith in her book 'The Science of Health" shows 10 per cent of people "Well," 10 per cent "Sick" (the black being acutely sick) and the other 80 per cent "Semi-well," the gradually decreasing number being indicated by the density of the dots.

The second graph is a categorization I devised which shows 10 per cent A—"Excellent" and 10 per cent E—"Sick," the same as above. I think that from the findings

on physical examination of the quality of the structures of an individual and the efficiency and cooperation with which his functions are performed, you can assess an individual's health, and subdivide the above 80 per cent into approximately 20 per cent B—"Average," 30 per cent C—"Poor" and 30 per cent D—"Loss of Health." This last group is most important because in it are placed those who have either symptoms of "Loss of Health," i. e. loss of physical strength, loss of weight and loss of emotional stability or "The Beginnings of Disease" such as tuberculosis, cancer, etc., in which the symptoms are the same. As the diagnosis between these two states is made only with the greatest difficulty, it should be undertaken only by a qualified doctor and not by the patient himself.

Graphs III and IV are the Categories showing the division into Categories from the actual findings on examination of the first 50,000 recruits in Canada, and of 209,298 in 1941. They show that there are about 40 to 44 per cent of individuals who have been found with disabilities or "Loss of Health" rendering them unfit for front line service. And still we carry on in our medical schools, training doctors to care only for the 5 to 10 per cent of the population in the left division of all these Categorizations. Why should we not do something about the 35 to 40 per cent who are unfit, not only for full military service but to carry on their activities in ordinary life?

I am going to finish with a story told by Charles F. Kettering, who is a great research scientist. He describes the educationist as one who is always looking to the past and studying history with such intentness that he does not pay enough attention to the future. If we drove automobiles the same way we manage our lives, we would have the steering wheel facing out the back window instead of in the direction in which we were heading. I think that there ought to be a new subject, which is the exact opposite of history, in the education of individuals growing up in the world. What should its name be? I object to "hysterics."

Dr. M. H. Rees (University of Colorado): I would like to point out to our colleague from Western Reserve that this Association does not have individual memberships. The membership is by institution, and all members of that institution are entitled to attend these Association meetings and take part in the discussion. I would judge that probably Dean Sollmann has had the same difficulty I have had. In coming to this meeting, I asked three or four of our clinical colleagues if they would not accompany me, and they informed me they were not interested in pedagogy.

Dr. C. D. Leake (University of Texas): This discussion suggests the wisdom of considering the differences between policies and plans. Plans necessarily, I think, follow the adoption of policies. The discussion this morning illustrates the difference between two policies: (1) Shall we base our procedure on the conditions and standards of the past? Or, (2) shall we adapt ourselves to the obviously changing circumstances that are occurring in the field of medicine?

If one takes as a basic policy the former, of holding to standards and ideals of the past, then I think one would have the rather pessimistic outlook that was expressed by Dr. Wearn. On the other hand, if we are going to exercise our biological prerogative of adaptation and thus better our chances of survival, we probably will take the policies that are suggested by the ideas of Dr. Rappleye.

Our plans, as they may depend on which of these policies we pursue, seem to be indicated rather carefully by what the future proposes. It is clear that there are certain lines of development coming before us in medicine. Certainly, I think we are going to be faced in this country, for many years to come, with the proposition of turning out many more doctors per year than has been the case up to the time of the accelerated program. In other words, I think that the compressed program may be with us for quite a while to come. We will have the obligation, I am afraid, of taking care of the health not only of the people of the United States but of the major part of the world,

not only in connection with the maintenance of proper medical service for our troops and our Navy, but also for public health work, if for no other reason than to protect our own health in this country.

Might I say here that I think it would be wise for us to transfer our notions from "tropical medicine," an unfortunately narrow term, to a wider concept, such as "geographical medicine" or "environmental medicine" or "international medicine." We need some term that will indicate the interrelations of disease throughout the world and the modifications of disease that occur as a result of difference in climate or environment. "Geographical medicine" is a crying curricular need.

Then we are faced with another extraordinary problem that we have brought upon ourselves. By our work in medicine we have increased the average life span enormously, so that now, for the first time in the history of the human race, do we find that there are more people alive over 30 years of age than under. For this we are unprepared economically, politically or medically. It seems that here is an extremely important field of investigation, and for curricular consideration, by our medical schools.

Dr. Francis S. Smyth (University of California): With war, haste is the order of the day and such strains as may be apparent under this order of haste are apt to be interpreted as weaknesses subject in turn to hastily devised remedies. Without forgetting the necessity of sacrifice and the necessity of military dictation in time of war, my thesis, to put it briefly, is that we are not called on to lay aside all critical judgment nor to accept permanently, remedies or proposals based on war conditions and the order of haste. Medicine cannot be efficiently taught by Chautauqua tours or correspondence courses. A series of paid lecturers are not a faculty. Increasingly important are the tutorial bedside and clinic observation of case material with correlated lectures. In a sense it is the apprenticeship system on a large scale. By the same token our present concept of medical education involves a maturation of the student.

Shortening of premedical and medical curriculum was undertaken to provide more doctors in a shorter period of time to keep abreast of the sudden expansion of our armed services. The result has been a curtailment of many non-essential but most valuable elective courses and programs. Coupled with reduced faculty and more calls on their services, there is apt to result a substitution of formulae for basic principles. At best little time is allowed for maturation factors. Already we have had numerous applicants who apparently were interested in medical education largely because of the government subsidy and the shortened curriculum. If it is reasoned that both premedical and medical courses can be obtained in a total of four years now, there is every reason to suspect that there will be pressure to continue this program in the postwar period. For example, the veterans' rehabilitation program allows for subsidy of education if the training, degree or license of occupational curriculum can be obtained in a four year period. The military are interested in mass production obtained by rule, formula and psychological tests. Educators are interested in individuals and vocational guidance of applicants. It is a prime right of a faculty to pick the students it will teach. I believe there is too great a value placed by the military on psychological formulae in the selection of students and with it the tendency to reward precocity. The result may be a rather immature group for a social profession.

We may expect considerable numbers of our graduates to elect to continue in military status even after the hostilities cease. Nevertheless, there will be a tremendous problem for re-orientation for civilian service and for postgraduate training for many of our present students. Whether the program for veterans will include this phase of medical education is not clear. Perhaps certification of the specialty boards is to be included in the four year educational subsidy. A veteran of this war has already applied for medical school training and it was reported he was to be subsidized for a period of three years. In any event we must not be blind to the opportunity and obligations to help raise the standard of medical training to the prewar level. Mention might be

made of the anticipated recognition of at least part of our graduate program. This is, briefly, the hope that after a nine months internship, one-third of the group may have a second hospital period of nine months while one-sixth may be deferred as long as a third period or a total of 27 months, though held in reserve by the military.

Procurement and Assignment: I hesitate to discuss this for fear of being misunderstood. The task has been stupendous as is the entire task of so great and so sudden a change from a nation with little military organization to our present status. With our economy of abundance shifting to one of scarcity and of depression to a war boom, it is akin to chills and fever in the body politic.

What I can honestly state is that as the success in arms becomes manifest, there is little likelihood of closing the schools. Since that is so, there is then no reason to preach on the one hand to maintain standards and on the other to reduce a faculty to women and 4Fs. Yet the Washington representative of Procurement and Assignment on a recent visit told me that was what was expected. Personally, I contend that for educational standards, a faculty is picked for its capacity and ability, that the emphasis for good instruction necessitates the use of young vigorous stock, not oldsters and 4Fs. Where ability is found in the latter group, the condition may be considered coincidental but so extreme a point of view as that expressed by the Washington representative is irreconcilable with giving any more than lip service to "keeping up the standards."

The war brings into conflict policies of the educational institutions and those of the military. The latter is interested in mass production and is forced to advocate hastened curriculum. The medical schools are accustomed to consider individuals and a tutorial type of training in which maturation is more to be stressed than precocity. The problem of postgraduate education and re-orientation to civilian status are major problems for the postwar period. My personal hope is for an early abandonment of this field of military endeavor as a noble experiment failing to effect its good intent despite a tremendous financial outlay.

Dr. H. S. Diehl (University of Minnesota): I would like to make a few comments on what I consider three very important papers. Dr. Johnson and Dr. Rappleye have presented most timely and important discussions of the problems and responsibilities which medical education will face in the postwar period; while Dr. Wearn discussed some of the present difficulties that are facing every one in the field of medical education. The institutions in this Association have made distinguished contributions to the war effort. The contributions, however, have caused inevitable disturbances of peacetime programs.

At the present time there are approximately 50,000 physicians in the armed forces of this country. These 50,000 were withdrawn from between 130,000 and 140,000 effective practitioners of medicine. Obviously, it is impossible to take 35 or 40 per cent of the effective practitioners out of any country without a serious disruption of many of the activities in which they were engaged.

The policy of the governmental agencies concerned with medical education has been, as was stated yesterday by representatives of the Army and Navy, to maintain, so far as possible, without sacrifice, the standards and quality of medical training. The Surgeon General's Office of the Army, the Surgeon General's Office of the Navy, Selective Service, and the Procurement and Assignment Service have all been concerned that this be done. At the same time, all these agencies are faced and have been faced with extreme and unusual demands for young physicians; demands, incidentally, that are continuing.

The Army planned at the beginning of this war on a ratio of physicians to total strength of about 8.3 per thousand. They had to adjust that ratio to about 6.5 per thousand some six months ago. At the present time, I understand that the Army has approximately 5 physicians per thousand and the Navy has less than 4 per thousand. In view

of this it is no wonder that the armed forces feel that their present situation requires, most urgently, more young physicians.

To do our part in meeting this need those of us that are concerned with medical education are faced with the responsibility of reappraising our staffs, releasing as many as possible and still maintain a satisfactory program of medical instruction.

The Procurement and Assignment Service, which was established two years ago, took as its first action the establishment of a Committee on Medical Education, and one of the first directives sent out was to medical schools requesting them to establish lists of essential teachers. Instructions were then sent to Procurement and Assignment Service Committees that those teachers who are essential to the maintenance of medical education should not be declared available for service in the armed forces. The policy of the Procurement and Assignment Service has been to maintain standards of medical education, but to do so without retaining more than a minimum of young men of military age.

The responsibility for the administration of this policy has fallen to state and local committees of the Procurement and Assignment Service, and I have no doubt that errors and mistakes in judgment have been made. As someone has said, the only person who can play third base in a major league throughout the season, without making an error, is the third baseman in the grandstand. Unquestionably there have been mistakes in judgment and lack of understanding on the part of certain local and state committees of the Procurement and Assignment Service. However, appeal procedures have been available and the deans of medical schools have a responsibility to appeal decisions of local Procurement and Assignment Service committees in case their decisions seem unsound. Some appeals have come through to the Directing Board.

Looking at the situation from the other point of view, that is the point of view of the Army, Navy and Procurement and Assignment Service, one cannot fail to note a wide divergence in the number and the proportion of faculty members listed as essential. The only conclusion one can draw from this is that some schools, in fact many schools, have released too many physicians; thereby reducing their faculties to a point that is dangerously low. On the other hand, some other medical schools seem to be attempting to retain an unusually high percentage of faculty members. The balance, somewhere between those two, probably is the sound, middle ground.

There is another aspect of this problem that Dr. Johnson has mentioned and I would like to emphasize. That is that certain schools are reporting considerable increases in enrollment in freshman classes. And some of these are schools with relatively inadequate staffs and facilities. The schools themselves determine the size of the classes that they admit. By this procedure they can control to a large degree their own teaching loads.

This is a situation which demands serious consideration. I am sure that many medical faculties are reaching a point where it is serious to lose any more faculty members. Obviously they must retain what they have. The time may come when steps will have to be taken to supplement medical school faculties by having men released from the armed forces. Up to the present time there has been no indication of willingness on the part of the Army and Navy to do that but it may come.

DR. WILLIAM WALTER GREULICH (Western Reserve University): I wonder, before this interesting discussion is finished, if we cannot come to the point. As I understand it, Dr. Wearn presented his view, which was to the effect that this present schedule seriously reduces the efficiency and quality of the work of the medical students who are being trained. What I should like to have, and I think many others here also, is an expression of opinion of the rest of the group. Does that point of view or does it not square with their experience?

DR. WILLARD C. RAPPLEYE (Columbia University): The report we made yesterday to this Association showed that standards are already deteriorating definitely in one-fourth of the schools. Many schools report that their staffs are at a minimum level,

and further reductions will further impair the standards. I think Dr. Wearn has hit squarely on the very difficulty we have found and Dr. Johnson has found in his studies, that the staff situation is very serious in many of these schools and that the general quality of medical education is going down and it is getting serious. We are in entire agreement with Dr. Wearn on that.

DR. T. SOLLMANN (Western Reserve University): I desire to comment on the statements of Dr. Wearn in regard to the genesis and promulgation of the acceleration plan. The plan was discussed at Richmond by the Association but no binding rule, I believe, was taken at that time. Later in the year, I, for one, was called up by a news reporter and told that the press association had been officially informed that it had been decided that medical schools should go on an accelerated, continuous program; that practically all schools would do so, and that it could be done by practically all schools, without any lowering of standards.

As this was released to the newspapers before the Association members were informed that such a statement was to be given out, the decisions were rather forced, especially in view of the state of public opinion and, particularly, the pressures of Selective Service. The schools were not given adequate opportunity for deliberation as to how each school could conform, in view of the commitments that it had made for reducing staff and so on. The school that did not immediately conform to an acceleration was made to feel that it was unpatriotic.

The criticism has been made that schools have increased their numbers of admissions. My recollection is that schools were asked, if possible without lowering standards (and one's fingers were crossed when that was said) to increase their admissions by 5 or 10 per cent.

DR. JOSEPH C. HINSEY (Cornell University Medical College): It seems to me our hindsight is always better than our foresight. I have often felt it was like playing a soccer game. We had certain rules at the beginning of the game. At the beginning, we released men for hospital units, with the idea that we could rely on certain remaining residency staffs to help carry the teaching load. After the end of the first quarter, we changed the rules and started to play football, and we began to have a reduction in our residency staffs at a time when it was not possible to replace essential people who had gone into the service.

Then, in order to compensate for that, later in the game we decided we would increase our intern staff. Now we have had a further reduction in resident staff and also a reduction in the intern staff and we are having to release men who were appointed last March.

It seems to me that the increasing needs have seemed to be necessary but they are needs that might not have been foreseen at the beginning of the game. I think it is fair to those people who have been dealing with this problem, to realize that there have been increasing needs, and a lot of this problem is due to the factors that could not be foreseen. However, I think in this game we are about punch-drunk now and have been thrown for a rather severe loss. If something is not done, we had better take our teams off the field.

THE PRESIDENT: It might be well to remind the Association that the Executive Council was authorized, by formal vote of this Association, to assume responsibility during the interim in all matters.

SECRETARY ZAPFFE: By way of information and, perhaps, a little clarification, if you will consult the published reports of the proceedings, you can verify what I am going to tell you now. I was in Washington in August, 1940, and consulted with the three Surgeons General. We discussed, particularly, two things at that time, whether it was desirable to increase the size of the student body, and whether it was desirable to go on an accelerated program.

At the Ann Arbor meeting of the Association in 1940, I brought this matter to the attention of the Association in the executive session, and it was decided that there was no need, at the moment, to do anything about it.

Early in 1941, the Executive Council sent out, suggestively, the thought of increasing the number of students by from 5 to 10 per cent, if it was possible to do it without any lowering of standards. It was also suggested that the medical schools consider going on an accelerated program. These recommendations were presented formally at the meeting in Richmond in 1941, and the announcement was made at that time, and was supported by the figures which I have in my office, that already the medical schools had increased the student enrollment in the freshman class by 9 per cent.

Then came Pearl Harbor. A special meeting of the Association was called in Chicago in February, 1942. All the colleges in the Association, barring two, one in the Philippines and the other one in Oregon, were represented at that meeting, and they voted unanimously to go on the accelerated program.

Second, the Association has not been unmindful of the fact that the teachers, the faculty as a whole, be brought into this picture as much as possible.

For many years, as I have traveled around the country, visiting medical schools and meeting with medical faculties, I have told them that the membership in the Association consists of medical schools, that every member of the faculty was a member of the Association. Too many of the faculties were not sufficiently interested and put it off with the statement that "The dean is the representative and goes to the meetings" and the deans do come to the meetings.

I was also told that not all the deans reported to their faculties what transpires at the meetings. I have tried to encourage the faculty members, by voice and by letter, to write papers on pedagogy to be published in the JOURNAL. If you will look back through the files of the JOURNAL for the past eighteen years, you will find many such papers.

Ever since 1907, we have always devoted one whole session to pure pedagogy, and I want to assure you that it has not been an easy task to get men to agree to contribute papers for that session.

As I have been attending these meetings, year in and year out, I have always been interested to see how many of the faculty of the host college were attending the meeting. I can assure you that the number is very small; sometimes it is deplorably small. "You can lead a horse to water but you can not make him drink." We have offered every opportunity for these men to come and take part in the meetings. This is their meeting.

I was interested yesterday to see how many of the Western Reserve faculty were here at the meeting—very few and, particularly, very, very few of the clinical teachers. If you can offer any solution or anything that can be done to change that picture, I would be very glad, for one, to have you do it. Every year, about one month before the day of the meeting, I send from 100 to 150 copies of the program to the dean of the host college for distribution among his faculty. On one of the pages of this program, under the head of "Information" is a line which calls attention to the fact that every member of the faculty of every member college is a member of the Association and may participate in all the proceedings, but that every member has only one vote, automatically that of the dean since he is the administrative head of the faculty, or some member of his faculty if he delegates him to be the voting member. It is, perhaps, natural, that every member of a faculty be interested primarily in his subject and secondarily in teaching. But, if he gave more thought to teaching, many of the woes connected with setting up a good curriculum would be eliminated.

In my opinion, everything that concerns or bears on the proper and effective operation of a medical school is the concern of this Association. It is definitely an association

of medical schools and not of deans of medical schools. The Association does not have an individual membership.

DR. VICTOR JOHNSON (University of Chicago): Reference was made once or twice to the importance of the postwar program of graduate education, residencies, and so on, and reference was made to the study being conducted by the Council on Medical Education and Hospitals of the American Medical Association. A preliminary report of this will be published soon, and it may be said now that the results are very encouraging. The cooperation has been excellent, and we may look forward to having available a large list of residencies and internships for men returning from the service, who wish to pursue further study in those fields.

DR. JOS. T. WEARN (Western Reserve University): The accuracy of my statement in regard to the action on the accelerated program has been challenged by Dr. Rappleye. Just for the sake of clarity may I read that statement? "And the Executive Committee of the Association of American Medical Colleges voted to recommend acceleration of the curriculum and announced it to the newspapers, without previous consultation with those engaged in the actual teaching in many of the schools."

Now as Dr. Sollmann indicated he learned of your executive committee's action from the newspapers and our entire faculty learned of it from the newspapers. Moreover, I have been told by several members of Dr. Rappleye's faculty that they first learned of it from the newspapers. Indeed, I changed the wording of the statement quoted above on the advice of a member of Dr. Rappleye's faculty, who assured me he had not heard of the committee action before it appeared in the newspapers.

DR. RAPPLEYE: We have a lot of those fellows.

DR. WEARN: If I may say so, this one is one of your best. I am in agreement that acceleration had to come. What I objected to was the manner in which it was put over. I think that, had it been thought out more carefully, discussed and submitted to the medical schools, a great deal of constructive thought would have been put into it rather than a hurried, unthought-out release to the newspapers. That was my complaint, and I think it was a just one.

Dr. Rappleye has denied that the committee acted without consulting the medical schools, and at the same time defends the committee's hasty action as necessary because of the urgency of the situation. War calls for many hurried decisions, but in this case there is no excuse for not having consulted with those most affected by the decision, namely those teaching in the medical schools.

With regard to Dr. Rees' question as to members of the teaching faculty not coming to the meeting of this association, I think that he has made a good point, and one of the questions that I wanted to raise here was, how you can get more members of the teaching group to come to this meeting, so that they will add their counsel, to what is now almost entirely administrative counsel. Just remember, though, that we teachers belong to the 50 per cent that has remained behind and are doing the work in these medical schools.

DR. WILLARD C. RAPPLEYE: We had indicated before war was declared, even before Pearl Harbor, that acceleration should be initiated. Many schools started that program experimentally long before Pearl Harbor. So we were not caught by so much surprise with this accelerated program.

Postwar Planning for Medical Education*

WILBURT C. DAVISON
Dean and Professor of Pediatrics, Duke University School of Medicine
Durham, North Carolina

The problem is five-fold: (1) postgraduate training for the returning medical officers; (2) the continuation or abandonment of the accelerated medical school program; (3) loan funds; (4) premedical education, and (5) the reorganization of the curriculum.

1. *Postwar postgraduate* medical education is a serious question. It is raised in practically every letter I receive from graduates in the Armed Forces. The solution is simple. The only really effective postgraduate education is that given to house officers in our hospitals,[1] and every medical officer should return to his own or some other medical school or hospital for from six months to two years of intensive work.

Even though there is an excess of approved internships and residencies,[2] the number should be increased in teaching hospitals during the postwar period. During the war to conserve man power, university hospitals should operate with as small a house staff as possible, but they should provide for as many interns and residents as can be given adequate training when the war is won, and the medical officers return. Universities should regard these men as graduate students, like those in the graduate school of arts and sciences. If fellowships are justifiable for the latter, maintenance and a small stipend should be available for the former. A medical school should be equally interested in postgraduate and undergraduate medical education.[3]

The American Medical Association[4] and some of the Foundations are canvassing the hospitals and medical schools in regard to increasing the number of residencies and fellowships for postwar postgraduate training. It is hoped that a sufficient supply of appointments will be available so that every returning medical officer can obtain from six months to two years of the type of medical experience and training which he desires. Financial support to the medical schools and hospitals from the American Medical Association and the Foundations would greatly facilitate this program. The fact that returning medical officers will receive from three to six months pay when they are discharged, instead of the $60 paid us in 1919, will enable most of them to spend from six months to two years in postgraduate hospital or laboratory work.

I know that those of us who were in the last war will do everything possible to avoid the dearth of opportunities for postgraduate training which faced us on our return from France. My own experience is typical. After the Armistice, I wished to continue my pediatric training and wrote to John Howland at the

* From the Department of Pediatrics, Duke University School of Medicine and Duke Hospital, Durham, N. C.

Johns Hopkins Hospital. He replied that nineteen medical officers had applied for four vacancies, and that they would be given to the first four who returned. Unfortunately, I was then ordered to Archangel and later to Coblentz, but by strenuous efforts I persuaded my commanding officer to release me. I reached Baltimore on March 4, 1919, and received the fourth appointment but I have always felt badly that the other fifteen later arrivals could only be observers and not workers in the pediatric clinic.

When this war is over, Duke University will double the number of appointments in the clinical services and also in the preclinical departments. The training for this increased number may not be as good as for a smaller group but it will be a fairer plan than a few good opportunities for the officers released early and only a few crumbs for those who return later. It is hoped that many returning medical officers will become teachers, who will be greatly needed in the basic medical sciences, as well as in the clinical branches, if good teaching and high research levels are to be maintained on the accelerated program.

Weekly postgraduate courses similar to the obstetric-pediatric courses supported by the U. S. Children's Bureau also will enable many of the physicians who did not join the Armed Forces, to "refresh" and "brush up" their medical knowledge.

2. *The accelerated medical school program* of four quarters or three semesters per year should be continued after the war on a voluntary basis. The advantages to the medical student are obvious. He will be one year younger at graduation and will have an additional year for hospital or other training; he will be better prepared, for he will not have lost a fortnight or a month in October of each year getting back into the intellectual stride which had been his in the preceding June, and he will see the clinical material peculiar to the summer months.[6] As Johnson has reported, the disadvantages to the medical student have been over-emphasized.[6] The accelerated program of four quarters per year was used at Duke on a voluntary basis for the ten years preceding Pearl Harbor, and 56 per cent of the students completed their medical course in less than four calendar years. Since December 17, 1941, the accelerated schedule has been compulsory.

3. *Loan funds* are necessary for the accelerated schedule as well as for the usual program, especially for rural students who have few financial resources. Although the medical students at Duke University pay only 28 cents of every dollar of medical school expenses (only 9 cents if the costs of the teaching hospital are included), 49 per cent of them are unable to study medicine without financial assistance.[7] An annual loan fund of less than $12,000 has enabled all these students to remain in school. The loan funds of the W. K. Kellogg Foundation and of the U. S. Office of Education of the Division of Higher Education of the Federal Security Agency have been of great help in this problem, and it is hoped that they will be continued during the postwar period.

4. *Premedical education:* There are three main reasons for entrance requirements: (1) to give the student adequate preparation, both scientific and "cultural," in order that he may profit from his medical instruction, (2) to provide the medical schools with competent students, and (3) to keep out those who are intellectually weak and likely to fail.[8] It is time that admission requirements should be revalued realistically and liberalized. Too much emphasis has been placed on quantity. In spite of their college transcripts which are weighted down with semester hours, few medical students really have a "working knowledge" of chemistry, physics and biology, or a "reading knowledge" of French and German, which are no longer necessary for access to the foreign literature. The premedical student should be aware of the importance of a well rounded general education as a preparation for the study of medicine and not limit himself to scientific courses. He would be better advised to secure a knowledge of the principles and a thorough appreciation of the interrelations of the basic sciences than to accumulate credits in many courses. He should learn how to work independently, observe critically, and to analyze, rather than simply store the information presented. His choice of studies, beyond those required for admission, should be governed by his own chief interests and by the intellectual stimulus to be derived from the work. His major interest may be in any field, scientific or otherwise, and should provide an opportunity for the demonstration of his real ability. In general, he should avoid courses in subjects which are included in the medical curriculum.[9] A literary background will be of inestimable aid to his career.[10]

The necessary preparation in English, mathematics, chemistry, physics and biology can be obtained in two or three years of college work but some schools require four years for admission. However, since the majority of medical graduates are 27 years of age by the time they have had four years of college before medical school and one year of hospital training afterward, and since at least two years of hospital experience are desirable for an adequate medical education, it would seem preferable to sacrifice the senior year in college for an additional year in hospital.[11]

The selection of students is one of the most important functions of a medical school. If the student is keen, he will be a satisfactory physician almost regardless of his teaching, and if he is mediocre, no amount of instruction will materially raise his level. Students should be selected on the quality rather than the quantity of their preparation and on demonstrated evidence of personal attributes of intelligence, character and general fitness for the study and practice of medicine. As there is no infallible method of determining the ideal student and physician, many sources of information must be consulted, including (1) his curricular and extracurricular college record, (2) carefully prepared, confidential appraisals by teachers who know him personally, (3) his percentile rating on the medical aptitude test, and (4) the results of an interview with the members of an admission committee or one of its regional representatives.[12] Experience in the admission of students also is a valuable aid. For example, the selection

of the last five classes at Duke University was so carefully done that only 14 per cent of the students failed to complete their medical course, in contrast to a 24 per cent "shrinkage" in the first five classes. This reduction in the number of students who were admitted but not graduated means an increase of 10 per cent in the supply of physicians.

5. *Reorganization of the curriculum:* As Rappleye[13] has suggested, the most important objective is a close integration of the entire medical course into a single unit of education rather than a series of more or less isolated subjects. Too much teaching in too many subjects should be avoided. True education also is self-education. The faculty can help a student *learn* but it rarely *teaches* him. The only lasting medical training comes through *doing* something with hands and head. Being told or seeing helps but "doing" sticks. The student should be encouraged to take an active part under supervision in all the laboratory, clinic and bedside procedures. Every effort should be made to emphasize the close relationship of preclinical and clinical subjects and to impress the student from the first with their interdependence. Medical education everywhere also needs the spirit of inquiry—the spirit and habit of scientific curiosity.[14] Students should be given sufficient free time to pursue elective subjects which interest them.[15] In other words, modern laboratory methods should be combined with some of the better features of the old apprentice system.

In addition to the integration and liberalization of the present curriculum, the following additional subjects must be considered:

(a) *Tropical diseases* are among the most important problems of the war, and probably will greatly affect civilian practice after the return of the armed forces. Every physician should acquire a knowledge of tropical medicine.

(b) *General practice:* A well trained general practitioner can and does successfully treat 85 per cent of disease, and as his volume enables him to treat his patients at a lower cost, the public needs and wants more general practitioners. Since the law of supply and demand is causing a larger percentage of the present graduates to enter general practice, it behooves medical schools to study this field so that students may be better prepared for it. Too many specialists are being trained.[16]

(c) *Country practice:* One of the greatest problems in medical care is the dearth of physicians in rural districts. In one North Carolina county, even before the war, the ratio of physicians to the population was as low as 1:5,164,[17] though 1:1,000 is necessary, especially in the country. This situation is not due to the lack of physicians but to their maldistribution, for the United States, as a whole, has a physician-population ratio of 1:719. The medical schools must study this question of the need for rural practitioners, for, after all, the only excuse for medical education is the need for physicians and for medical service.

(d) *Socialized medicine:* The main question facing the public and the medical profession is not "Will medicine be socialized?," but "Will socialized medi-

cine be extended?" At present, in this country, part of the medical care is given through public and philanthropic agencies and part through private practitioners, and the problem is not one of "socialization" but of how rapidly the proportion between public supported and private medicine should be changed.[18] This trend is particularly marked in pediatrics. For example, in Durham, N. C., in 1927, less than one per cent of the infants received medical care through public clinics, while in 1943, the percentage is about ten. Pediatrics is rapidly becoming a public health specialty, even though the private practice of pediatrics will always remain, just as private schools have persisted, and should remain in order to maintain standards. The medical profession must provide the public with adequate medical care, both public and private, and teach the people to seek it.[19] Therefore, the medical schools must train some of the students for full time salaried appointments; at present too many physicians have taken salaried positions because they had not succeeded in practice, and often have been unprepared for their duties. Although the essential difficulty of the present situation is the uneven distribution of the costs of medical care, drastic measures, such as the Wagner-Murray-Dingell bill, which establishes a three billion "medical care and hospitalization account" under political control, may result in worse medical service to the American people. On the other hand, the public and medical profession should eventually benefit from the gradual development of organized methods by which adequate diagnostic and therapeutic medical services can be made available to all of the people, regardless of their ability to pay. For example, a large percentage of the public is being greatly helped by the provision of maternity and infancy care for the wives and children of enlisted men by the U. S. Children's Bureau.

CONCLUSIONS

1. Hospitals and laboratories, especially those attached to medical schools, should increase their appointments to provide postwar postgraduate training for the medical officers returning from the Armed Forces.

2. The accelerated medical school program of four quarters or three semesters per year should be continued on a voluntary basis.

3. Additional loan funds should be available, especially for rural medical students.

4. Premedical preparation should be liberalized and the requirement of four years of college work abandoned.

5. The medical school curriculum should be reorganized, integrated and modernized.

The Place of the Small Community Hospital in Postwar Medical Education*

LESTER J. EVANS
Medical Associate, The Commonwealth Fund
New York

The subject of the small community hospital and postwar medical education is one which holds the temptation to spread over a large field. As a matter of fact, I tried to cover several aspects of medical education on which the community hospital impinges only to discover that none could be dealt with adequately in the time allotted. One idea which I discarded, and which is of particular interest to me, dealt with the possibility of using the residencies in small hospitals as a part of a coordinated plan for the graduate training of the general physician. However, the largest single contribution which the community hospital can make is in postgraduate education and I shall limit my discussion to that.

Self-development of the physician is the foundation on which any sound over-all plan for postgraduate education in medicine must be built. This self-development takes place under a variety of conditions: an apparently isolated physician, by diligent effort, keeps up to date against heavy odds; another, surrounded by opportunity, makes progress with little effort by merely drifting with the stream; another, completely inert, falls far behind. The motives of those who progress likewise vary: the sheer joy of strenuous intellectual activity is all that some men need; competition and the striving for position keep others moving ahead. Whatever the motives or the means by which self-education is accomplished, however, much can be done, by the sound planning of postgraduate activities, to accelerate it.

Postgraduate teaching may be divided roughly into two kinds, one taking place in the physician's home setting; the other away from home, generally at a medical teaching center. Neither fills the bill by itself. They are definitely complementary. Together they round out a satisfactory plan for continuous study. The devices used to "educate" the doctor, wherever or however applied, are of slight value if it is not recognized that what is offered must be fitted to his needs and abilities and that the way in which it is offered must reinforce his own efforts. Physicians enrolling for medical school courses are better prepared for what they are to receive if they have been actively engaged in doing the best they can on their own with such outside help as is available. Such men know why they want certain new information and what they can do with it when they get home. Anyone can pick up new knowledge on specific details of practice at the teaching and research center; only the man sensitized to his own problems is likely to sharpen his perspective there, or to use what he learns of new develop-

* Read at the Fifty-fourth Annual Meeting of the Association of American Medical Colleges held in Cleveland, Ohio, October 25-27, 1943.

ments in medicine as a means to a genuine re-orientation. When such a man has finished with the medical school course he can continue his self-education on a new level.

I do not propose to discuss postgraduate instruction at the teaching center, but it is no novelty to say that it is often too didactic. Some of it must be didactic, but here as in undergraduate teaching it is desirable wherever possible to move from the lecture room to the bedside and the laboratory. I venture to go a step further and emphasize the idea that some clinical instruction should be done at the bedside of the physician's *own* patient because that is where his self-education is taking place and that is where he needs stimulation and help. It is the purpose of this paper to discuss some ways in which this process of self-development may be reenforced as the first step in a continuous program of postgraduate study.

The community hospital—at least the community hospital as it ought to be—is a setting in which the physician's self-development can be fostered. There his problems are at hand. There the process of learning goes on from day to day. There all the physicians of the community can share the experience. Like everyone else working at the professional level, the physician learns by doing, by analyzing his mistakes, and by sharing his problems with others. The urge for self-development comes from his daily job. The patient now under care may hold a bigger lesson for him than that he can find in the most profound formal exercise, and in discussing his own patient with his colleagues the doctor often finds himself a teacher as well as a student—a position most conducive to learning.

Under what conditions in the community hospital does this process of self-development flourish, and how may they be assured? To learn from doing, the physician must be privileged to work to the limit of his training and ability and the facilities of the hospital must be available to any of his patients, whether bed or ambulatory. His clinical study must be supplemented by expert laboratory assistance. He must have free and easy access to his fellow practitioners on a basis which makes mutual criticism seem right and natural. Finally, he must be able to call at need on skills and knowledge greater than his own and those of his immediate associates.

The framework for his self-education is determined by the character of the institution and the thought and understanding with which its policies are administered. While two hospitals may be run under apparently identical standards, one may be permeated with an educational atmosphere and the other completely devoid of it. It takes an intelligent board of trustees and staff to make their hospital an educational center.

In such a hospital staff appointments and privileges are granted solely with the welfare of the patients in mind and in accordance with the physician's qualifications—a procedure eminently fair to all. Technical departments are operated for service, not profit, for an injudicious rate schedule may seriously restrict diagnostic study. Professional rules and regulations are so administered as to provide the maximum incentive for the physician to learn while serving

his patients; they do not merely set up chores to be done to meet an abritrary standard. They provide for regular staff meetings, medical case records, the review of deaths, consultations, useful recourse to laboratory and x-ray departments, autopsies, and routine pathology. In this setting the physician has full opportunity to move forward in his self-development. He can study his patients completely; he can check his clinical observations by objective tests; he can compare notes with his colleagues; he can profit by the analysis of postmortem findings. He is further encouraged by seeing his colleagues following the same course.

There comes a time, however, when this process can be accelerated by certain stimuli, some from within and some from outside the hospital, and it is these I now wish to discuss. I shall draw on the experience of the hospitals established under the Rural Hospital program of The Commonwealth Fund in developing educational programs. These hospitals are located in relatively small communities and only in exceptional instances do they have more than 60 beds, but what has taken place in some of them can happen, in essence, anywhere.

Concrete evidence that staff education is a basic policy is manifest in these hospitals through expenditures for items such as a medical library, teaching equipment for the staff room, honoraria for guest teachers, and, when needed, free hospitalization of patients for teaching purposes. If the hospital is really to be a community institution and the staff is to measure up to acceptable professional standards the expenditure of money for teaching aids is just as important as for the latest type of mechanical dishwasher. Any sound and lasting hospital education program must have the full backing and sympathy of the board of trustees, and it is a wise board that regularly includes in its budget an allocation for educational expense.

Every hospital can have a good working library if modest funds are available to purchase a judicious selection of journals and books, particularly the former. Files of journals not purchased by the hospital may be contributed by staff members; and at the very least the library may be the medium for exchange among physicians of literature not generally available to all. The educational value of case presentations at staff meetings can be greatly increased if there is generous reference to the literature in the evaluation of the problems under study. But the cue to the successful development and use of a library may not come until some guest speaker actually demonstrates its usefulness to him, just as the function of the clinical record—also essential to good medical work—may not be brought home to the staff until such a guest asks about the prevalence of this or that condition, or finds obvious omissions in the evidence supporting the diagnosis of a case under discussion.

A visitor who is able to make the medical record a vital part of the physician's handling of a patient is a boon to any staff, and I want to say a little more about the service he can render. This guest speaker, who very often is from a medical school, has a unique opportunity to step up the educational pace of a small hospital. He comes, not just to show what he can do, but to help the local

group with their problems through exchange of experience and opinion. Such visitors should not be sought by the staff simply to relieve them of their responsibility for preparing for their own staff meetings, nor should they be invited too frequently. Their visits should be timed, and the subject matter of their discussion selected, in such a way as to fill specific gaps in the day-to-day educational development of the staff. Their value as effective teachers will be pretty much in proportion to the extent to which they sense and nurture an educational process by adapting their own contributions to the local situation.

The guest teacher can do much, even in a short visit, to aid the staff educational program. He can do much more if he remains at the hospital several days and during that time lives and works with the physicians and has opportunity to view their work in all its aspects. To illustrate, when Dr. Wm. S. Middleton, an internist, spent four days as a guest teacher in a 50-bed community hospital, he saw each day with the entire staff a large variety of hospital and ambulatory patients—medical, surgical, and obstetrical. Patients were presented by their doctors and then or later their particular problems were discussed. This informal discussion extended throughout the day, at lunch, in the x-ray department, in the laboratory, even over the autopsy table. Lessons drawn from these discussions emphasized many points with respect to the medical history, the physical examination, the value of a particular routine laboratory examination, the pitfalls in the interpretation of another, when and when not to use the EKG, the importance of flat x-ray plates in acute abdominal conditions, and so on. At this same hospital, where such clinical sessions are held annually, a subsequent visitor (Dr. Alton Ochsner, a surgeon) shared the day's work to the extent of scrubbing up for operative cases which came in during his stay. He too covered a wide range of subjects, and stirred up much interest in the rechecking of diagnoses against operative findings. The men came to think of the operative note as something more than a mere listing of sutures, count of sponges, or anatomical description of the part involved.

A further stimulus to the development of local educational programs and the self-development of the physician has come in recent years through statewide or regional extension teaching of various kinds, especially where the lectures and clinics are held in hospitals. Many of these programs have been sponsored jointly by medical schools and professional organizations. Only recently I had opportunity to attend a clinical lecture on the subject of surgical diagnosis given in a 120-bed community hospital by an extension teacher. This teacher was spending one day a week for ten weeks in this particular institution, which was one of five centers in a circuit covering one section of the state. He was busy all day. When he was asked to assist with operations, which often happened, all the surgeons were invited to the operating room to see, hear, and discuss what was done. Under such circumstances there is no doubt that teaching is effective. Contrast this with another community where there are three proprietary hospitals. The clinics and lectures in that community were not held in any one of the hospitals because the staffs of the other two would not attend. They were therefore held, and I think rather appropriately, in a funeral home.

Such intimate association between student and teacher over the student's own problems, in his own hospital, is I dare say postgraduate instruction of a high order. It picks up where the doctor's own endeavors have levelled off and starts the curve of progress up again. The discussion covers a wide range, it is true, and no single topic is exhausted, but what is said is pertinent to the problems of the day.

To dig deeper and search further the physician must leave home to study at a medical school, but too often in the past the effect of refresher courses has been lost because students have come unprepared for what they were to receive. The physician's experience at the medical school will be much more satisfactory to him and to the school if he has been consistently concerned with his own education. He will approach his formal study with greater assurance on the one hand, and with a clearer view of his own deficiencies on the other. He will be prepared for the new horizons to be opened to him. The mere fact that he is this kind of a student makes it possible for the medical school to offer him a more satisfactory review course, whatever its length.

The subject assigned to me lays stress on the postwar period. One may fairly ask whether the community hospitals will have any particular contribution to make toward postgraduate education in that period. Although many physicians leaving the services will wish to take refresher courses immediately, many others will find it impossible to do so. It is to be hoped that the educational opportunities available in their own hospitals will meet some of their needs, at least for the time being. Community hospitals can make their contribution by doing better the job they are already engaged in, but many of them will need further support and help from the medical schools and their affiliated teaching hospitals in developing vigorous programs. I have suggested how the schools can help by supplying visiting teachers. In hospitals not now adequately covered, the provision by the medical school of consultant supervision of clinical pathology, pathology, and x-ray will also pay large educational dividends. Marked improvement in service to patients and in the interest displayed in case discussions may be directly traced to such services when they are rendered with a teaching aim.

We know that all the facilities holding any potentiality for postgraduate teaching will be greatly taxed to meet the postwar demand, and now is the time to think through the whole problem and determine where each phase of such teaching may be done most effectively. Medical schools, hospitals, and professional organizations will all be involved in this expanded activity. This Association, and its member schools, being the leaders in medical education, are faced with a heavy responsibility.

The self-development of the doctor is fundamental to good postgraduate education. This is obvious, but like all obvious facts it is often taken for granted. As new postgraduate programs are planned for the future, whatever their content, it is likewise obvious that they will fulfill their purpose only if the doctor is given opportunity, encouragement, and assistance to improve himself daily as he goes about his work.

DISCUSSION

DR. A. C. FURSTENBERG (University of Michigan): Dr. Evans, in his timely and very commendable paper, has emphasized the responsibility of our educational institutions, our small hospitals as well as the large ones, in the rehabilitation of medicine after the war. I believe we all agree that it is not only important to win in battle but it is equally essential to be victorious in peace. We must not permit the demoralization of our educational institutions and our educational programs to the extent that we may pass into a period of decadence, from which recovery will be a long drawn out process. Those of us not actively engaged in this combat must lay our plans for a successful period of reconstruction, when this war has come to an end. As has been brought out so many times this morning, we must face that responsibility with a clarity of objective and a precision of action.

I am convinced that in medical education today our most important problem for postwar planning is that of developing broad programs of continuing education that will meet the needs of reserve officers who will return to peacetime practice. Visualize, if you will, that vast group of medical men now in the armed forces, who some day will return to our educational institutions for the help and the consideration they will so richly deserve. Some of them will have opportunities for continuing education in line of duty, but the numbers thus favored will not be very large. Only a selected few will have a chance to review the basic sciences. Consequently, there will be a need for the establishment of broad programs of continuing education in these fields alone, which are so indispensable to the creditable practice of medicine.

I think it is perfectly obvious to all of us that the medical schools of this country and their affiliated hospitals have neither the facilities nor the personnel to conduct the broad programs of graduate medicine that the exigencies will demand. But it is entirely conceivable and, moreover, practicable (and this is the point I should like to emphasize) that the medical schools of this country might consummate an affiliation with the hospitals within their states that are equipped and willing to offer programs of continuing education.

In this close relationship, the medical schools would assist in the organization of curriculums, library facilities, the maintenance of standards, and would furnish instruction in the fundamental sciences of medicine.

The experience of our own institution during the past few years would seem to indicate that the residents in the hospitals in Southern Michigan find little difficulty in traveling to our medical school once a week for a day's instruction in one or two of the basic sciences.

This program has worked admirably in our own school and has been accepted with a great deal of enthusiasm by the residents in hospitals in our part of the state.

As Dr. Evans has brought out, study is a solitary activity; a lone accomplishment; one's best thinking one does alone. Nevertheless, guidance and counsel are necessary and these are the true functions of our institutions of higher learning.

The requirements for graduate medical education today and those of greater magnitude for the future call for a plan of action which, jointly and cooperatively, embraces the maximum utilization of all our educational facilities in our various states. I am making a plea therefore for a close affiliation between our hospitals and our medical schools.

DR. ALPHONSE M. SCHWITALLA (St. Louis University): May I ask Dr. Evans whether his observations have been largely in tax supported or in private institutions and whether

he would care to discuss the differential patterns that are being presented in those two classes of institutions, in the hospitals with which he is acquainted?

DR. LESTER J. EVANS (Commonwealth Fund): This group of hospitals to which I referred are all private or voluntary institutions. Their operating expenses are met by income from patients, contributions, and local tax appropriations. The hospitals are managed by boards of trustees which are elected annually by the memberships of the corporations, a member being defined as a person who has contributed to it. The provision of tax funds for operating expenses has in no instance interfered with the management of the institutions.

DR. B. O. RAULSTON (University of Southern California): A large group of men will want postgraduate training or extended training, when they come back from the war, especially men who have had less than two years of hospital experience before they went into the services, and even those that had more than that. They should have the opportunity to continue their training.

In California we have a minimum, I believe, of 3500 beds in county hospitals that are not used for teaching medical students. Their use in teaching the interns and residents, the few residents there are, is pathetically poor, in most instances, because of several reasons. I believe that this great pool of teaching material (if it is true in our state, it must be true in some institutions in other states) not only should be but can be used in this program of postgraduate training for these young men.

I want to agree especially with two or three remarks which Dr. Evans and others have made that the place to teach these men is at the bedside. We have the beds. With the few things done to these outlying county hospitals, just a few, such as providing more adequate departments of pathology, more adequate libraries—you have the beds already, and the teaching beds in the outlying hospitals are just as good as they are in Bellevue or Cook County or any other place where most teaching is done. The material is the same. You need better pathology and laboratory facilities; you need better libraries, but you also need the teaching personnel.

That teaching personnel should be men who would, at regular intervals, make teaching ward rounds for the house staff. The house staff form of instruction is the thing that should predominate and will predominate in training these men. So that, if provision can be made for this teaching personnel, so that men in the various departments make teaching rounds at regular intervals, and have seminar discussions of the material in hand at regular intervals, something valuable can be done with great masses of material that are not now being used.

I doubt that facultites of the medical schools can begin to provide the visiting teams of instructors that are necessary. I have been criticized for making the suggestion that many of the doctors in the armed forces who are trained teachers might stay on for a year or two or three as full-time teachers in these institutions. Just a few per institution could bring the whole thing into focus and make a good teaching institution out of one in which almost no teaching is done. Many of these are within range of the medical schools. When men are back so that civil practice is taken care of and the teaching load and the practice load are not what they are today, teams can be made up that will go regularly to do this kind of teaching. I think that is a great possibility that should be pursued.

DR. R. J. BEAN (Dalhousie University): We in the Maritime Province, as many of you know, have been trying to work out such schemes to utilize teaching facilities in smaller hospitals (those of 125 beds or more) which aren't located in our city. We

felt bound to restrict ourselves to sending out our interns in their final year to no more than three months service in these hospitals. I must confess that there is a great danger in selecting your hospitals, and it is a good deal of trouble to get proper intern committees appointed who will be active. They will all agree, but you have to watch it very carefully.

Personally, I thoroughly agree with the previous speaker that in every community there must be a wealth of teaching material just as good as it is in the larger centers. A great many medical schools, because they don't have to, are not making use of that material. We have to do it, and we are serving two purposes, educating students from the Maritime Province and Newfoundland and, to a great extent, furnishing interns for the hospitals, largely for the hospitals in Nova Scotia.

Dr. C. Sidney Burwell (Harvard University): I have been very much interested in and instructed by Dr. Evans' paper. It seems to me that a development of this type of teaching opportunities is fundamental to the maintenance and advance of the quality of medicine in the future. I want to point out here the implications which this general program has for those of us who are concerned with the undergraduate curriculum.

I suppose the undergraduate curriculum is now in a state of what may modestly be called flux (laughter) and we are all concerned with its future. In the reorganization of curricula, it seems to me, as it does to you all, of the greatest importance that we should not only consider subject matter but that we should also give great attention to that combination, that curious combination of freedom and responsibility which develops men out of students and which gives them part of the impetus to go on, for the firm purpose of advancing their own education. Thus, it is only the people who have the desire to advance their own education who are going to take advantage of any sort of a postgraduate program.

"Can Excellence Be Learned?"*

ALAN GREGG
Director Division of Medical Sciences, Rockefeller Foundation
New York City, New York

In the time of Galileo (1564-1642), the International Postals Union (1863) had not been organized. The questionnaire system of discovering anything was, therefore, not as easy, though it was just as valid, as it is today. You will have rather a memorable picture if you imagine that splendid old Italian sitting at the top of the Leaning Tower of Pisa with a stream of colorful young pages racing up the circular stairs bringing in the questionnaires filled out by persons throughout the European universities, persons most closely in touch with actual conditions and, therefore, most likely to know. It must have been a dramatic moment when the last questionnaire was in and the grand total verified by a young apprentice secretary and Galileo muttered under his breath "E pur se muove," which is an Italian idiom meaning "I wouldn't have believed it myself," and flinging the mullioned windows open, announced to a throng of nobles, knights and commons, waiting breathlessly in the Baptistry, the discovery we all have learned to associate with his name. Which shows that the questionnaire as a research tool, the so-called Socratic method of discovering the truth by asking questions, is a good deal older than most of us realize.

To coin a phrase, the war has made many things "more difficult than they were before Pearl Harbor." Among the prewar luxuries I count the questionnaire. I suppose we shall get back to that paragon of the Old American Way, that paradigm of Free Enterprise, that paradox of Thought—the Questionnaire. But I can offer to you today nothing better than individual and, perhaps, lonely reflections, shorn of the aura of discovery and the halo of statistical reassurance.

The subject is "premedical education." Since most papers on education of any kind show a singular tendency to passionate preoccupation with nonessentials, I want to anchor my remarks to the fact underlying all successful teaching, namely, that where there are first rate teachers and first rate pupils wanting to learn the interaction taking place between the two will deserve the best senses of the word "education." I do not accept the definition of "horse sense" as the sense that horses have not to bet on human beings. In education, you cannot bet safely on anything else, curriculum committees notwithstanding. Therefore, if the influence of the medical schools could be focussed on finding and supporting fine teachers in colleges and secondary schools, and on the selection of the best criteria for admitting students to medical school, we could, at any rate, take the satisfaction of those who use all their ammunition shooting at the bullseye. As an example, when I came back from Brazil, in 1923, Dr. A. V. Bock, who was in touch with the Admissions Committee at the Harvard Medical School, asked me why Harvard was not getting any more of the excellent students that

* Read at the Fifty-fourth Annual Meeting of the Association of American Medical Colleges held in Cleveland, Ohio, October 25-27, 1943.

had been coming from Colorado College. "E. C. Schneider has left Colorado College," I replied. "Where is he now?" Bock asked. "Connecticut Wesleyan," I said. "Now isn't that remarkable! That explains the string of good students we've begun to get from Wesleyan!"

Can nothing be done in recognition of the obvious? Why do we so steadily obscure the most precious reality of premedical education by ignoring the names, the addresses and the pupils of those who do the premedical education? I would like to see fewer honorary degrees given to the financial supporters of universities and more to their intellectual supporters—the secondary and college teachers on whose enthusiasm and ability as teachers the university depends far more than its public acknowledgments indicate.

Perhaps you think this emphasis on beautifully used teaching ability too commonplace, too vague or even rhapsodical. But no system of education, no thinking about education, no planning to reform it can possibly be effective if one forgets to adjust the type of teaching to the maturity of the student. For every grade of student maturity great teachers can be found. I had a superb teacher when I was in secondary school, Moses Clement Gile, and another at the end of the medical school, Elmer E. Southard. The important point is that their methods and personalities were different and yet they were perfectly effective with two different stages of student maturity. Our colleges in America—especially the colleges of the large universities—often do a mediocre job in choosing the teachers for freshmen and sophomores. In effect, they turn immature teachers loose on immature students. Why they do this, I do not know. Young instructors in many a university are not young instructors at all—they are young graduate students whose abilities as teachers receive neither trial nor cultivation. They are intent on publications and "productive scholarship" and the freshmen and sophomores are the worse for our dishonesty of thinking such persons are able instructors.

If in many a college the teachers are poorly adapted to the varying maturity of their pupils, the situation in secondary schools certainly is no better. Where the college teaching lacks adequate teachers for younger students, secondary schools, dominated by college entrance requirements, fumble the chance of giving good advanced courses. Moreover, the high schools suffer from the stipulations and mechanical criteria imposed by the products of numerous graduate schools of education among which I am told the Teachers College of Columbia University is content to be counted a leader.

Whatever the medical schools can do in giving recognition and assuring freedom to the best individual teachers in colleges and secondary schools will protect them against the envious disapproval or the excruciating mechanisms of educationist administrations. More than you realize, the good teachers need your protection and your encouragement. Such attentions from a medical school would gain an audience by their unheard-of novelty and, perhaps, create the pride on which further improvement could be built in school after school, in college after college.

The other essential of good education is the quality of the student. There are plenty of "MDs" in the world: there are not enough good doctors. It is not so hard to make students know about disease: it is hard to make them care about it. I doubt if school and college requirements sort out the kind of human beings who will care about disease, who will care about eliminating or alleviating disease, who will care about being the all but anonymous contributors to a state of widespread public health. I would expect family tradition to be a better but by no means infallible indication of such interests. The sons and daughters of those strange professions,—teaching, the ministry and the medical profession,—who often prefer the respect and affection of their fellow men to merely competitive success,—offer more probably dependable recruits than the scions of families controlled by other standards.

The preference for a medical career declares itself earlier than for any of the other professions,—a circumstance which has not been utilized in any formal system of medical education with which I am familiar. Good medical students have strong and steady, as well as long established motivation. Since the years from ten to twenty see the dawn of plans and purposes in young people, would it not be a wise and practical move for this Association to confer with the American Association of Teachers of Biology with a view to presenting biology more adequately and more widely in American secondary schools? Some steady support and the declared approval of American medical colleges might be decisive. The time is appropriate since more directly than ever before the medical schools will feel the present inadequacy of secondary school teaching in biology. All too often high school biology is fused and lost in a course of general science and the student is, indeed, scantily prepared for the understanding of vital phenomena or even of the services of the physician who deals with them. All too obvious is the fact that one year is not enough to cover adequately botany and zoology and the only glimpse of human physiology or hygiene which the majority of students will ever get. If the Association of American Medical Colleges, representing persons interested in better premedical education, were to ask Oscar Riddle or some of the men interested in the teaching of biology in secondary schools to prepare a statement for study and approval, there would be the small beginning of a potentially great improvement in American secondary school training for medicine.

Another aspect of premedical education which I submit for your consideration: How often do we try, as individuals, to find and encourage adolescent boys of great promise who are steering their courses toward medicine? If each of my hearers were to succeed in such an enterprise once in two years, we would have selected the equivalent of a whole year's class in a good medical school. And in so doing, each of you would see how lamentable are the resources in biology for a really able boy in most of our secondary schools.

Till now this discourse has kept to the essentials of good education,—able teaching adjusted to the maturity of the taught, and the quality of the students in character and mind. But there are many cruises that can be made safely if we can keep that anchorage in mind. So let me cast off in a totally different direction.

The American who goes abroad to study other systems of medical education finds it difficult to explain the function of the American college to the graduate of the European university. You can explain that the holder of an American A B, as he enters our medical school, is older than the graduate of an English or French secondary school. He is from three to five years older. He has had more physics, more chemistry and more biology; indeed, he has had more of all sorts of information than an eighteen or nineteen year old European. But, from all I have seen, the American at 22 is intellectually not much more mature, nor culturally more advanced than the European who also is entering the medical school but at 18 or 19. In two points the American seems ahead,—he has had a smattering of more subjects and he is less likely not to waste any more of his time in collegiate and convivial dissipations of time and energy. In two points the American seems behind,—he expects to be taught and he has had little experience or use for reflection, or the closely related exercise of expressing his own ideas clearly. He has not had as much drill in thinking things through for himself. He is more at home in the laboratory than the European four years his junior; but with his own language or any other language, he is usually at a startling disadvantage. To this defect he may or he may not attach regret.

The interesting fact is that the comparison is always made between the European at 18 or 19 and the American at 21 or 22. I have never heard anyone claim that on the day of graduation from secondary school the usual American boy or girl has as well trained a mind as a European of comparable ability and age. So passionate is the nationalism on both sides of the Atlantic in this 20th Century, that discussions on the subject are likely to become emotional, and so complicated are the factors involved and so different are the values we attach to education, that public discussion may, perhaps, be futile. The conclusions from all my reading, observations and discussions are that on young Americans somewhere between 14 and 22 we are wasting a good deal of time. We seem to be taking our students in convoys, which means, of course, at the pace of the slower boats. We call these convoys "classes." The tempo at which the class is taken along seems governed by sentimentality and a friendly reluctance to ask for much from the best students. The avidity of students meanwhile for the merciless demands of student activities makes it clear that neither high school nor college work has called out all their energies.

One difference between the university student of Europe and America deserves your lasting attention. In Europe the university student is many times less numerous in proportion to the total population than in this country. He usually comes from a family background and tradition of culture comparable to that of about one-sixth or one-tenth of the American college students. The European family provides and insistently instills the polish and the cultural standards many an American goes to college to secure.

Whether we shall return to the convoy system for which our colleges have stood, is an interesting speculation. The radical shortening of premedical education is just what could be expected as an emergency measure, in view of the half guilty and widespread impression in this country that "a good deal of water

could be squeezed out of the usual college course." Now, if you were told that five hundred cooks were requiring four hours to prepare a banquet, when everyone knows that one able cook could get the same meal in an hour and a half, what would you get from telling the five hundred cooks that an hour and a half, with reduced supervision, was all that would be allowed? Although fifty out of the five hundred would meet the test and prepare a meal up to the former standard, there would be no superb cooking even from them. And four hundred cooks would anxiously produce slops.

Our four year American colleges may claim that they offered the opportunity to the best students to get a really superior premedical education, but under the convoy system the abler students were only rarely encouraged and never forced to the full use of their abilities. So we got a guilty feeling about college. We know it did not call for all our best students could give. The less able students, the less precocious, the plodders, had time enough to meet the minimum requirements, and the average students met the requirements with no distinction but with no reduction in their ranks. Now if you shorten the distance a convoy must be taken, it is harder to recognize the best boats. The main immediate result of the accelerated premedical course will be that it will be harder to select good students. Shortening the premedical course does not squeeze the water out of the college student's training; it shortens the period in which the less able student can be recognized for what he is. It does not even squeeze him out. But it does one thing of very great importance: for the first time it pushes all the able students. This is likely to bring us all to face something we have been rather evasive about,—that we have never asked or expected as much of the best of our students as they can deliver. The president of one of our finest American institutes of technology told me he could not forecast success in after life for the top ten men in each graduating class because they had never learned to drive themselves. That is a lesson needed in after life but not learned by boys whose intellectual brilliance enables them without driving themselves to lead a convoy covering a prescribed course. This seems to me an extraordinary waste, a shocking loss.

American education has never faced the question of how to foster an elite. Behind the question of whether we have one or how to create one stands the equally important query "do we want one?" In the Fifth Century, B. C., the Greek poet Pindar asked the question, "Can excellence be learned?" Our educational philosophy would be in for some extensive reformation if, as a result of the war, we were to ask ourselves, "Should excellence be pushed?" If it should, we have not the system to do it in premedical education. That is the main point of this paper: if excellence should be pushed, we have not the system to do it in premedical education.

Perhaps you are thinking, "Now what do you mean by pushing excellence?" That would be a long story but one concrete suggestion may be offered. It is the cardinal and capital suggestion in this paper: As medical schools we should ask the colleges to allow their premedical students to take a larger proportion of electives than other students, explaining that we attach the greatest importance

to the extent to which they excel in the courses they have chosen. More of excellence is revealed by a student in choosing and charting his own course than by being first boat in somebody else's convoy. And it takes better teaching to make a successful elective than to continue a required course. Medicine offers openings to a wider variety of gifts than any other profession. By what right or wisdom can we narrow the range of abilities to be admitted to so variegated a field of needs and possibilities? What assurance is there in accepting a boy who has been in the upper ranges of a class committed to four slow years of a prescribed curriculum administered with solicitude for the average and with approving neglect of the exceptional? No wonder our medical school deans are asking about the candidate's participation in student activities. Regrettable as it may be, student activities are about the only revealing electives in the convoy colleges.

I would think, in the absence of good secondary school advanced courses, that two years of college chemistry, one year of college physics and one year of college biology are all that we should ask of candidates for entrance to medical school, and I would regard a school wise to waive any one of these years occasionally. I would like to see the candidate's record in what he selected as electives, within or far outside these fields, and with teachers I knew something about. As long as the personal interview is used for the selection of medical students (and I hope for the ethical status of the profession it always will be used), the defined requirements for entrance to medical school are neither final nor all important. Why not, then, throw every influence in the direction of catholicity of the student's interest, and place emphasis on true excellence of character and mind, of individual choice and absolute accomplishment?

We are not at a period of the world's history when medicine can wisely confine its horizons or narrowly define the type of training appropriate to unpredictable yet almost certainly varied demands. A professional school that stipulates a precise and protracted preliminary training, entrusts the recruitment of the profession to others. We cannot expect the secondary schools or colleges in absence of any word from us to comprehend the importance of a wide latitude of interests, abilities and tastes in those who are going to teach, investigate, and take care of the diseases and the health of man.

DISCUSSION

DR. ALAN GREGG (Rockefeller Foundation): That was written without any possible knowledge of what the papers this morning were to contain. I want to make two remarks that I would have made if I had known the circumstances. One is simply for your reflection, and the other is capable of somewhat more prompt action.

The one for reflection is this: I am not at all sure that it would be a mistake for some, at least, of the medical schools in this country to say to themselves and to the public generally pretty soon now, "When our former students begin to return from the war to civilian life, we give notice now that we are going to stop taking in first year students, and certainly, one year and, perhaps, two years. We will devote our entire attention and our entire resources to what education we can give to the men who have lost by going into the war."

Otherwise, I think we shall have a generation that is open to either one of two things, self pitying and regarding itself as a lost generation, or else cynicism about whether it is worth while to get the best training possible. I would suggest that a school that did know its own alumni would be in a peculiar position. The alumni would want advance courses of some kind. I think, also, it is in perfect honesty to the oncoming generation to hold them up. We could say, "We had to take you with inadequate training but we would like you to come in with better training, for your own good."

The other thing which might call for action in the near future is this: It seems to me that, from this morning's comments, one could make this generalization. The number of medical students, of present students in the schools, is enlarged; the number of teachers is reduced. The number of hours available for whatever it is that takes place between teachers and students is shortened. It is not reduced but it is compacted.

Those three things, if I am perfectly honest—and I think it would be awfully good if we were honest more often in public—spell, quite clearly, deterioration of what the student is getting.

If I look at it a bit more carefully, I see this: The number of students may not increase. We are reasonably sure that we are at the worst of affairs there. It is not, probably, going to get any worse. The number of hours for the process does not seem to be likely to get much shorter; I fervently hope it will not. But, when you come to the number of teachers, you are in a different situation. I think we are going to lose them by natural processes of coronary sclerosis on the older men and the effect of restlessness about getting into the war, on the younger teachers.

If with those three rather quantitative variables, number of students, number of teachers and number of hours, if we consciously and deliberately see, as of now, that one of those variables is going to get worse, we ought to think of what we can do about it. I think, quite seriously, what we have to do about it is to take some formal action in this group, vis-a-vis the Army and the Navy, asking them to prepare, or to begin to think about, detailing teachers, now in uniform and keeping them in service, to the job of teaching the students, of whom they have 80 per cent in our schools.

I do not want to be self pitying but I do not see the poetry of the schools putting in their endowment funds for teaching the Army, putting in all of their effort in a cause and not having as much collaboration, when they begin seriously to need it, from that same Army in doing the job.

Frankly, if you do not do that, you will get to the point where the whole acceleration program will not be worth the candle, where you should not have gone so fast because the stuff you will be turning out will not be fit even for Army use. I think you are perfectly honest and it would be, in point of time, shrewd to serve some sort of notice on the Army that the time may come when they will have to send some men back. Frankly, I do not think putting them out of service is the psychological answer. I think they ought to be allocated to the job of teaching.

It will, in certain senses for the younger men, make that an honorable occupation, and they will obey orders, but they themselves will not make the move to get out of the Army in order to go to a nice, cushy job, teaching, which it will be called and, God knows, it is not that. Psychologically, they will have to be sent.

This group, more than any other, should present to the Army for serious consideration, and no violent, hasty action but very serious action in the next six months, the possibility of the Army sending men to assist the schools to train the students now in the Army.

I can say that the English experience, which is longer than ours and very dissimilar, is that they have begun to do that.

DR. CALVIN S. HALL (Western Reserve University): I would feel more sure of my remarks if Dr. Gregg had discussed the topic set forth in his title. (Laughter.) I do not

possess any special competence, in fact any competence at all, for discussing the real subject of his provocative paper, namely, should excellence be pushed and, if so, by what methods?

I believe we will all agree with a number of points set forth by Dr. Gregg. The best education does result from the interaction of excellent students and teachers. Whether we could agree on common criteria of excellence in either the student or the teacher is dubious.

Dr. Gregg speaks well of his high school teacher, Mr. Gile, and a medical school professor, Dr. Southard. Would contemporaries of Dr. Gregg, with him in these same schools, agree or would they name others? Is it true that there are many types of excellence?

I like Dr. Gregg's insistence on the need for medical school faculties to take an interest in and assist those secondary school teachers and college instructors who train premedical students. There is too much compartmentalizing in American education. We know not where our students come from. We know not where they go.

Perfect integration and cooperation cannot, of course, be achieved. But should we, therefore, be content with our present lack of concern regarding other levels of education?

I also like Dr. Gregg's suggestion that physicians be on the alert for boys—and he might have added girls—of great promise. Harvard is doing just this with its national scholarships. Each generation in a profession selects its successors.

We come to the main point of Dr. Gregg's paper, how can excellence be pushed, and, surprisingly enough, Dr. Gregg's solution is this: Don't push. Let the student take whatever college courses he likes with, of course, a few requirements, and judge him on his own choice of courses and the records he makes in them.

We recognize this as a sink-or-swim technique that is firmly entrenched in our American ideology. This is laissez faire in its most extreme manifestation.

I would like to make several adverse comments, just so you will not think Dr. Gregg and I have been in collusion on this. (Laughter.)

First, some person or persons would have to evaluate the record of electives chosen by the student. Professor X of the ABC Medical School is a music enthusiast. Applicants who present an A in music appreciation stand high in his list. Professor Y of the DEF Medical School has for an avocation, the Victorian novel. Applicants who present high grades in this subject are tops with him. Would it not result in prospective medical students trying to flatter the extracurricular interests of those who have the authority of admitting to various medical schools? And, with my experience with premedical students, there is no more cunning or clever group. (Laughter.)

I think my principal reaction to Dr. Gregg's thesis is this: Cannot a program of premedical training be devised and accepted, which avoids the bad features of rigid requirements and those of the free elective, cafeteria program? If medical schools really want liberally educated students, should they not specify the various fields of human knowledge to which they would like premedics exposed? I do not mean specific courses but areas like history, music and art, literature and the like.

It is my understanding that each higher unit of education exercises considerable control over the lower ones. If medical schools desire to encourage liberal education, let them recognize this in their requirements for admission to medical schools. Those who guide the fortunes of the premedical student would have to fall in line. For many of us, this would have a salutary effect on liberal arts education as well as on the quality of medical students.

Dr. Willard C. Rappleye (Columbia University): We shall bring in a recommendation at the executive session later to request the Army and Navy to explore the possibility of their assigning back some of the former medical teachers for instruction in

those schools that are now so depleted that the standards of medical education cannot be maintained. We discussed this whole situation when the ASTP and the naval college training program were initiated more than a year ago. It was hoped that the Procurement and Assignment Service would deal with the situation. They have their problems, also.

DR. S. I. KORNHAUSER (University of Louisville): One of the things I think we find in medical students is a lack of exactness, which can be gained by the study of mathematics. In order to study a decent course in physics, it is necessary to have some mathematics. Many colleges do not require any for a course in physics and, therefore, have emasculated the course of physics entirely.

We get students in medical schools who can not figure up their work in quantitative analysis, and they can not figure the reason for making certain calculations for a blood count or anything of that sort.

Criticism which the college has received, at least from the Army and Navy, is that our students lack in exactness, and I think that all of you who have had engineering students in medical schools have had good results with them. Engineering students who have had a rather rigid course and who have learned exactness ahead of time, have done well, even though they have not had biology. I believe in biology as one of our fine, fundamental lines of knowledge, but engineers without it have done good work in medical schools.

The thing that I think we ought to do is not to become less rigid in our requirements, because a student, after all, is human; he is going to take the courses which are easiest; a good many of them are, at least. They are going to take the cinch courses. We ought to require English and mathematics as well as physics, chemistry and biology.

MAJOR MARGARET D. CRAIGHILL (Woman's Medical College): It is quite interesting that we have had our attention called to the secondary schools. They are much nearer the medical level than they ever were, particularly the need for teaching biology not only to premedical students but to all students. I have had this brought home to me forcibly recently in the relationship to the knowledge of the population or lack of knowledge in biology, as relating to health and health education.

I have been trying to teach a small group of 60,000 women something about health education. They know nothing about biology. It is extremely hard, without that foundation, to teach them anything. I am sure it is equally true of the men.

If we, as medical educators, are going to try to teach health education and, as physicians, to teach people how to take care of themselves, they should have a fundamental knowledge of biology. I believe that that is the worst taught scientific subject in the secondary schools. Chemistry and physics are taught much better. I am glad Dr. Gregg emphasized this point.

DR. WALTER L. BIERRING (Federation of State Medical Boards): Dr. Osler, in his writings and by the spoken word, frequently referred to the stimulating influence of early contact with his teacher of botany, in directing his thoughts and studies toward the larger field of medicine. I think if we looked into the life story of many a leading physician, we might find that the turning point in his student career was when he first developed the biological sense, and what that meant in the future study of medicine.

We all recall the dictum of Pasteur spoken some seventy-five years ago, that, "in the field of observation, chance comes only to the mind that is prepared."

While recognizing the lack of good teachers in the biological sciences during the high school period, the secondary and the preparatory college, there can be no question about the importance of the basic influence of making the student biologically-minded as early as possible in influencing his future service in medicine. Perhaps in this direction excellence can be learned.

DR. W. D. FORBUS (Duke University): As one sits through a session of this sort and listens, one cannot help being impressed by the number of jobs that the teacher of medicine is expected to handle successfully. I am not a lazy man; at least I would not admit it if I were, but I do know that it is utterly impossible for those who have a dominant interest in the subjects which they teach to become interested in and be competent to handle the man and various problems in administration that have been discussed here this morning. Either the teaching or the administration inevitably is done badly. The forward looking teacher of medicine, therefore, makes an early decision as to whether he will teach or become a *bonne a tout faire* in educational administration and does best by leaving the matters not of his choice to others. Thus, matters, such as Dr. Gregg has discussed, most often are allowed to take care of themselves, which, of course, they never do. Perhaps the study and the solution of such problems as have been discussed here this morning might be most successfully undertaken by a liaison department or at least a liaison officer attached to the administration of the medical school.

DR. ALAN GREGG: I think there is nothing to say excepting I am grateful to Dr. Craighill for bringing out the point that an improved general level of understanding of biology would do an immense thing in this country to help us handle the problem of the public understanding our work as doctors.

A very simple illustration I will refer to, and then stop. It is unquestionably true that public health measures in Denmark received early and extensive acceptance because of the fact that the milk industry in Denmark required a working knowledge of bacteriology on the part of every farmer. You never had to talk long to a Danish farmer to get him to understand preventive measures.

Now, we have a population that does not understand anywhere near enough of simple biology. As long as that is the case, we will have a hard time getting the potential and the actual services of doctors accepted by the population.

Reflections on the Textbook Situation

WILLIAM DOSITE POSTELL
Librarian, School of Medicine, Louisiana State University
New Orleans, Louisiana

Dr. W. C. Davison[1] in a recent article on the cost of medical literature gave us some interesting facts which may have a direct bearing on medical education. According to Dr. Davison, the average medical student in Duke University, School of Medicine, is required to purchase forty-six books which cost from $106.50 to $143.50, and is encouraged to own 111 additional books, which may cost as high as $450.50.

This seemed a rather large number of books to require students to purchase even though it is recognized that in any subject there are certain basic texts which students should have, and particularly in view of the fact that textbooks become out of date so quickly. Desiring to become acquainted with just what is the situation in our medical schools in regard to the required purchase of textbooks by the students, a questionnaire was sent to nearly all schools requesting this information. Twenty-eight schools replied, and the results were tabulated as given in the Appendix. With three exceptions, the average number of textbooks students are required to purchase total twenty-nine, and they are encouraged to own in addition from two to 111 books.

There may be more implications to this situation than is apparent. This matter was discussed with Dr. Edgar Hull, Director, Department of Medicine, School of Medicine, Louisiana State University, who gave it as his opinion that the fault lay in the kind of books that were available for use as texts by the students. The present books, as a rule, are not written from the point of view of their use as texts, since they are entirely too encyclopedic in character for this purpose. They attempt to cover thoroughly one particular field. This makes it necessary for students to purchase several texts to cover one course. This opinion is well borne out by observing which books are the most popular among the students. It is generally the more short, concise books, such as Grant's "Anatomy," that are being requested and are being used to the best advantage by the students.[2] Naturally, as their work progresses the need for more thorough texts, reference works, journals and other library facilities become correspondingly greater. This is all facilitated if the students have been given thorough instruction in Medical Bibliography.

There may be another interesting angle to this which we may speculate on a bit. For years, we have been attempting to teach students to think scientifically. That is, for teaching based on the authority of a text, we have substituted

REFERENCES

1. W. C. Davison: Reflections on the medical book and journal situation. Bull. Hist. Med. 11:182-200 (Feb.) 1942.
2. J. C. B. Grant: A Method of Anatomy. Baltimore, Williams and Wilkins Co., 1940. 794 p.

seminars, conferences, bedside teaching, and the laboratory, all with the end in view of encouraging students to observe and reason logically in contrast to accepting someone's statement as authority. Is the fact that we still require and encourage our students to own such a large number of textbooks significant that we are not practicing what we are preaching, or that we still have a great deal of respect for the authority of the textbook?

Whatever these facts implicate the fact does remain that our medical students are required to purchase a large number of books at a considerable financial outlay, which will become increasingly difficult for them to meet if the present trend continues.

APPENDIX

Schools	Books Required or Considered Essential	Books Recommended for Purchase
1	25*	20*
2	38	26
3	.....	25*
4	30*	.....
5	22*	27*
6	46	111
7	41	.....
8	32*	.....
9	32	.....
10	27	5
11	0	.....
12	28*	.....
13	29	2
14	42	43
15	36*	.....
16	0	.....
17	24	9
18	38	62
19	30	15
20	26	.....
21	34*	42*
22	12*	40
23	33	.....
24	29	.....
25	8*	111
26	25*	12*
27	10*	31*
28	0	.....

* Approximate.

JOURNAL
OF THE
Association *of* American Medical Colleges

Volume 19 MARCH, 1944 Number 2

Postwar Medical Education

In this issue of the JOURNAL are published several papers which deal with postwar medical education. Since medical colleges must serve an important function in this connection, it behooves all of them to give serious thought to setting up adequate programs which will enable returning medical officers, especially those in the younger groups, who were unable to complete their medical education mainly because of the curtailed internship, an unavoidable mishap occasioned by war needs, to continue their medical education. Then, too, many physicians in the older age groups will feel the need to pick up where they were compelled to leave off when they entered military service.

For a long time, medical colleges have been urged to set up good graduate medical education programs. Only a very few schools have offered such an opportunity, in adequate measure, which has made it incumbent for those seeking these opportunities to travel far from home and to leave their practice for a long time. Medical schools nearer home have not afforded opportunities for good graduate study. Even for postgraduate, refresher courses there has not been much done by most medical colleges. It is not enough to say that such opportunities will be made available, if desired. They must be organized and ready at all times, whenever physicians want them. While it is true that no one can foretell when the war will end, yet it is none too soon to take the steps necessary for the setting up of programs for further study in all fields of medical practice, not alone in the field of general medicine. The war will bring many new demands on medical practice. Tropical medicine especially, industrial medicine and surgery, will make new demands for the protection of the health and welfare of every one; new methods of treatment developed by the war will challenge the medical colleges in no small measure.

Postwar problems are being given serious consideration by all groups engaged in every kind of human activity, but none will have such heavy demands made on them as will those which are concerned with the health of the people. Funds have already been made available for the study of the needs arising from these postwar problems. The medical colleges must be prepared to meet these needs and for that purpose it is inevitable that large sums of money will be needed. Only by setting up programs, after careful study, can the approximate amount of money needed be determined. Therefore, it is incumbent on medical colleges to make a start now and not wait until the end of the war is in sight, lest it be another instance of "too little and too late."

◆ ◆

Program for Detroit Meeting

Suggestions for topics to be presented and discussed at the Detroit meeting to be held in that city at the invitation of the Wayne University College of Medicine, October 23, 24 and 25, 1944, will be most welcome. Effort is always made to have the program of the annual meeting conform to a certain pattern. Hence, it has not always been possible to list every contribution offered, no matter how important the subject dealt with nor how good the presentation. Such papers have always been published in the JOURNAL later as volunteer papers. However, suggestions for the program received now will help materially to shape the program.

The Passano Foundation

Something new in the book publishing business is the Passano Foundation founded by the Williams & Wilkins Company, Baltimore, and named in honor of the Chairman of the Board, Mr. Passano. This company, well known in the book world for its many fine contributions to medical literature—journals as well as books—will, no doubt, stimulate other publishers who have for long done business with medical schools, medical students and medical practitioners to do something along similar lines. It is a fine and worthy contribution to stimulating research in medicine. It is deserving of all the support the medical profession, especially the teaching part, can give.

◆ ◆

Congress on Medical Education

The 1944 Congress was well attended. The program was in keeping with the times. The government military services were represented. Thus, first hand information on plans dealing with education, general and professional, was available.

The deans of medical schools present met informally at the suggestion of the Executive Council of the Association of American Medical Colleges and discussed many problems of moment to them.

The Council on Industrial Health of the American Medical Association also had a two days' session. The Federation of State Medical Boards met for one day discussing matters of interest and concern to them.

◆ ◆

The Mailing List

The mailing list of the JOURNAL is being revised to meet the demands of the postal authorities who are asking that zones be included wherever they have been established to expedite delivery. If your mail address does not now show a zone—and it should—you are requested to notify the office of the Association so that correction can be made. This is important if prompt delivery of mail is to be made.

◆ ◆

Association Members

If you are a member of the faculty of a college holding membership in the Association of American Medical Colleges, you are a member of the Association with full rights and privileges. You may vote on questions at issue if your dean has delegated you as the voting member of your faculty. In any event you are entitled to attend the executive sessions and to participate in discussion of any item of business before the Association.

College News

Long Island
College of Medicine

Promotions: Dr. Thomas D. Dublin, to professor of preventive medicine and community health; Dr. Edwin P. Maynard, to professor of clinical medicine; Dr. George Samuelsen, to assistant professor of chemistry; Dr. George E. Anderson, to clinical professor of medicine; Dr. C. T. Chiaramonte, to assistant clinical professor of dermatology and syphilology; Dr. Walter A. Coakley, to clinical professor of plastic and maxillofacial surgery; Dr. Nicholas B. Dreyer, to professor of pharmacology; Dr. Arthur E. Lamb, to assistant clinical professor of medicine; Dr. Dorothy Loomis, to assistant professor of pathology; Dr. A. W. Martin Marino, to assistant clinical professor of surgery; Dr. George H. Paff, to associate professor of anatomy; Dr. John M. Pearce, to associate professor of pathology; Dr. Howard W. Potter, to professor of clinical psychiatry; Dr. Ainsworth L. Smith, to assistant clinical professor of surgery.

New Appointments: Dr. Gerard Golden, assistant clinical professor of otolaryngology; Dr. Walter Moehle, clinical professor of ophthalmology; Dr. Phillips Foster Greene, as visiting professor of surgery from December 1, 1943, to July 1, 1944. Dr. Greene's appointment as visiting professor was made possible under the terms of a grant from the Commonwealth Fund to encourage the exchange of members of the teaching staff of various medical schools. Dr. Greene is professor of surgery at the Hsiang Ya Medical School, Changsha, China.

Gifts totaling $997,019.00 were received in the year ending January 1, 1944, for eight research projects, staff expansion, scholarships, student loans, and for a new department of psychiatry. A six year grant from the Commonwealth Fund for the development of a new department of psychiatry was the outstanding contribution received during the year. This grant was made under the Commonwealth Fund's program to strengthen the psychiatric phase of education in the medical schools of the country. Contributions of $2,433 toward an overseas fund for the 79th General Hospital, the all-Brooklyn unit now stationed in the European war theater, were received from members of the medical staff and trustees of five hospitals affiliated with the medical school and from the staff and trustees of the College. An additional grant of $5,000 for scholarships was received from the W. K. Kellogg Foundation. The receipt of $43,432 in the first appeal for wide community support was another important contribution made to the College during the past year. More than 1,100 contributors to this fund included trustees, alumni, business firms, executives, members of hospital boards, physicians other than alumni, parents of students, fraternal orders, labor unions, and the public at large. The Annual Development Fund appeal will be carried on each year as a means of expanding the College's service to the community and its program of teaching and research.

For the education of its 422 students during the past year and to maintain its important research projects and plant facilities, the College required a total budget of $410,000. Approximately one-half the budget was financed by income from endowment and current gifts. Two endowed scholarships amounting to approximately $20,000 were established in 1943, the Stanley P. Jadwin and Peter Yudkowsky Memorial Scholarships. A new prize award was established through the gift of $1,000 in memory of Robert R. Benedict, the income from which is to be awarded each year to the fourth year student who offers the best paper on the causes and treatment of any form of psychosis. The Presbyterian Hospital made a contribution of $500 for research

on the circulation of blood through the optic nerve, and the Commonwealth Fund continued its three year grant to provide visiting professors under a plan to test the feasibility of more interchange of personnel between medical colleges. The Rockefeller Foundation made a grant of $500 for a series of lectures on problems in the distribution of medical care and the Blatt Memorial Fund was established to endow the quarterly cumulative index in the College's library. The American Medical Association gave $250 for research work in the department of pathology.

Commercial medical firms made grants for special studies as follows: E. R. Squibb & Sons, $2,000 for research in lymphogranuloma venereum; The Upjohn Company, $850 to defray expenses incidental to clinical investigation of a surgical germicide; The Winthrop Chemical Company, $1,200 for investigations on pneumonia; Lehn and Fink, $2,000 for bacteriology research; The Nepera Chemical Company $1,200 for research in dimethysulfadiazine; William R. Warner and Company, Inc., $2,000 for post graduate study; and the Heliogen Holding Company $5,150 for heliogen research.

◆ ◆

Baylor University
College of Medicine

E. E. Townes, Chairman of the Houston Executive Committee of the Baylor University Board of Trustees, has announced the endowment of a professorship of pathology to be known as the "Fulbright Professorship of Pathology." The endowment was made as a memorial to the late R. C. Fulbright by his widow, Mrs. Irene Fulbright. Dr. Stuart A. Wallace, chairman of the Department of Pathology, has been named recipient of the Fulbright professorship.

New Appointments: Dr. Kenneth L. Burdon, professor of bacteriology, who came from Louisiana State University School of Medicine. He is author of "Medical Microbiology" and other medical books; Dr. John H. Perry, assistant professor of anatomy, who was formerly with the Medical College of the State of South Carolina; Dr. Paul A. Wheeler, associate professor of pathology, who came from St. Louis, where he was assistant professor of pathology at Washington University and associate pathologist at the City Hospital; Dr. S. Earl Kerr, instructor in pathology, who was with the United States Army Medical Corps, last stationed at Colorado Springs, Colo. Previously he was in the pathology department of St. Luke's Hospital at Kansas City, Mo.

Kenneth L. Burdon, Ph.D., formerly professor of immunology and bacteriology at Louisiana State University School of Medicine, New Orleans, was appointed professor of bacteriology.

◆ ◆

University of Virginia
Department of Medicine

The personnel of the Eighth Evacuation Hospital, sponsored by the University of Virginia, now on duty in southern Italy, recently presented to the Medical School a collection of 75 replicas of surgical instruments discovered in the ruins of Pompeii and Herculaneum. The originals from which these reproductions were made were on exhibition in the National Museum of Naples. The reproductions were made by Cavalier Guglielmo Gallo, 27 Piazzo Dante, Naples. The replicas were made by hand from the metal originally used, usually bronze. They will be put on display in an appropriate museum case in the Medical Library.

◆ ◆

Northwestern University
Medical School

New Appointments: Dr. Malcolm T. MacEachern and Dr. Henry C. Sweany, associate professors of medicine; Dr. Carroll McCarter, assistant professor of pathology; Dr. Chi Che Wang, assistant professor of physiology.

Promotions: Dr. Abraham Levinson, to associate professor of pediatrics; Dr. Frederick W. Merrifield, to assistant professor of surgery; Dr. Leonard Cardon, to assistant professor of medicine.

New York University
College of Medicine

The faculty presented a symposium on medical education, in relation to the practice of medicine of the future on six evenings from January 17 to February 21, inclusive. The subjects of these lectures were: "Looking to the Future," by Dr. Alan Gregg; "The Relation Between Medical and Premedical Education," by Dr. Leonard Carmichael, president, Tufts College; "Public Health in the Future Medical Curriculum," by Dr. Joseph W. Mountin, Assistant Surgeon General U. S. Public Health Service; "The Place of Psychiatry in the Teaching of Clinical Medicine," by Dr. Louis Hamman, Johns Hopkins University; "Introduction in Social and Economic Aspects of Medicine," by Franz Goldmann, Yale University; "Medical Education in Britain After the War," by Dr. A. D. MacDonald, dean Manchester University (England) Medical School.

Dr. Walter B. Cannon, professor emeritus of physiology, Harvard Medical School, Boston, has been appointed visiting professor of physiology at the New York University College of Medicine.

◆ ◆

Woman's Medical College
of Pennsylvania

Dr. Josephine C. Lawney, W. M. C. 1916, recently visited the Woman's Medical College of Pennsylvania. Dr. Lawney was Dean of the Woman's Christian Medical College and Medical Director of the Margaret Williamson Hospital in Shanghai before the beginning of the war with Japan. At a tea given in her honor Dr. Lawney spoke briefly of her experiences with hospital administration in Shanghai under Japanese occupation and of the fine work being done by the Chinese staff now carrying on there. Some of the medical and nutrition problems encountered in the concentration camp during her seven months' stay were also interestingly told. Dr. Grace K. Martin, W. M. C. 1922, also a member of the Margaret Williamson Hospital Staff, plans to be in Philadelphia in the near future and has promised to visit the College. Both Dr. Lawney and Dr. Martin returned to the United States on the S.S. Gripsholm in November, 1943.

◆ ◆

Emory University
School of Medicine

Appointments: Dr. Crosby Swanson, professor of dermatology; Dr. Fred G. Hodgson, professor of orthopedic surgery; Dr. M. K. Bailey, professor of urology; Dr. Grady E. Clay, professor of ophthalmology; Dr. J. Calhoun McDougall, professor of rhino-oto-laryngology; Dr. Walter W. Young, professor of neurology and psychiatry; Dr. M. Hines Roberts, professor of pediatrics.

Dr. Russell H. Oppenheimer, dean, has resigned as medical director of the Emory University Hospital because of pressure of work in the deanery. Dr. Robert M. Paty has been appointed medical director of the hospital and associate dean of the medical school.

◆ ◆

University of Texas
School of Medicine

Dr. Arild E. Hansen, formerly professor of pediatrics, University of Minnesota Medical School, Minneapolis, has accepted appointment as professor of pediatrics and Chairman of the Department of Pediatrics and Director of the University of Texas Child Health Program under the auspices of the William Buchanan Foundation of Texarkana. The University's Child Health Program contemplates the further development and expansion of the Department of Pediatrics, to include research, and to create opportunities for practicing physicians to participate more effectively in promoting child health.

◆ ◆

Hahnemann Medical College

Dr. Wm. G. Schmidt has been appointed acting dean, Dr. Wm. A. Pearson having resigned from that position after many years of incumbency.

University of Illinois
College of Medicine

The Department of Otolaryngology announces its spring refresher course, to be held at the College in Chicago, March 20 to 25, inclusive, 1944. The course will be largely didactic, but some clinical demonstrations have been included. It is intended primarily for specialists, who under existing conditions, are able to devote only a brief period to postgraduate review study. The fee is $50.00. Registration will be limited. In letter requesting application, state school and year of graduation; also give details concerning specialty training and experience. Address—Department of Otolaryngology, University of Illinois College of Medicine, 1853 West Polk Street, Chicago, Illinois.

◆ ◆

Stanford University
School of Medicine

The Winthrop Fellowship in Pharmacology has been established for use in training doctors of medicine in teaching or research in the field of pharmacology. The fellowship is to be financed by a grant of $1,500 from the Winthrop Chemical Company, New York.

Dr. Ludwig A. Emge, on leave as professor and serving as Lieutenant Colonel in the U. S. Public Health Service, has been appointed regional medical officer for the ninth civilian defense region of the Office of Civilian Defense. Dr. Emge succeeds Dr. Courtney Smith, who has gone to Washington, D. C., for service in the national headquarters of the Office of Civilian Defense.

◆ ◆

Boston University
School of Medicine

President Daniel L. Marsh of Boston University announced today that Dean Bennett F. Avery has been appointed Director-General of Public Health of Iran. While the date of Dean Avery's departure from the United States is indefinite, yet he is leaving Boston at the end of this week. Dr. Avery has been Dean of the Boston University School of Medicine for a little more than three years. Dr. Charles F. Branch, professor of pathology and associate director of the Evans Memorial, has been named to succeed Dr. Avery as dean.

◆ ◆

University of Maryland
School of Medicine

Mrs. Mildred T. Gossett has been appointed executive secretary. Samuel A. Carson has resigned as assistant professor of physiology.

Promotions: John Walter Barnard, Ph.D., to assistant professor of anatomy; Kenneth M. Richter, Ph.D., to assistant professor of histology and embryology; Dr. Jack L. Valin to assistant professor of anesthesiology; Dr. John W. Cavanaugh to assistant professor of surgery; Dr. John F. Hackler to professor of hygiene and public health; J. Allan Stanley, Ph.D., to assistant professor of physiology.

◆ ◆

Syracuse University
College of Medicine

The Edward C. Reifenstein professorship of medicine will be set up through a stipulation in the will of the late Horace White, formerly governor of New York. After establishing life trust funds of $200,000 the will provides that three-fourths of the residuary estate shall go to Cornell University at Ithaca and one-fourth to Syracuse, the latter to be known as the Horace White Fund and the income to be used to pay the salary for the Reifenstein professorship. The $200,000 set up for life trusts will ultimately go to the two universities in their proportionate shares.

◆ ◆

Loyola University
School of Medicine

Dr. R. Mendez, instructor in pharmacotherapy at Harvard Medical School, has been appointed assistant professor of pharmacology. He will assist A. S. Marrozzi, M. D., who is chairman of the department of pharmacology.

Medical College of the
State of South Carolina

Dr. Robert Wilson, dean since 1908, has resigned. Dr. Kenneth M. Lynch, professor of pathology, who has been serving as assistant dean since 1935, has been appointed Dr. Wilson's successor. Dr. W. H. Kelley succeeds Dr. Wilson as professor of medicine. Dr. M. D. Wheatley has joined the department of anatomy. Forty-one men and two women were graduated in December.

◆ ◆

University of Pennsylvania
Graduate School of Medicine

Dr. George Morris Piersol, professor of medicine, has been appointed director of the new Center for Research and Instruction in Physical Medicine. To establish this Center the National Foundation for Infantile Paralysis recently made a grant totaling $150,000 for a five year period from January 1, this year, to December 31, 1948.

◆ ◆

University of Vermont
College of Medicine

Ferdinand J. M. Sichel, Ph.D., has been promoted to associate professor of physiology. James E. P. Toman, Ph.D., instructor in physiology, University of Maryland School of Medicine, has been named instructor in pharmacology and physiology and Miss Nancy Hart has been named research assistant in the same department.

◆ ◆

University of Georgia
School of Medicine

Dr. Robert C. Major has been appointed full time professor of thoracic surgery and Dr. John Robert Rinker has been appointed full time professor of urology.

Indiana University
School of Medicine

A portion of the library of the late Dr. Frank F. Hutchins has been given by his wife, Mrs. Luella Hutchins, to the University of Indiana Medical Center, to be set up in a separate library unit as a memorial to the physician who was a member of the medical school for many years.

◆ ◆

University of Kansas
School of Medicine

Dr. Earl C. Padgett, Kansas City, has made a cash donation to the Kansas University Endowment Association to be used for the establishment of a research fellowship in plastic surgery at the university's school of medicine.

◆ ◆

State University of Iowa
College of Medicine

Dr. Willis E. Brown, assistant professor of obstetrics and gynecology at the University of Nebraska, has been appointed to a similar position at Iowa. Dr. Brown is a Michigan graduate (1934).

◆ ◆

Queen's University
Faculty of Medicine

Dr. George K. Wharton, London, Ont., has been appointed professor of clinical medicine. Dr. Wharton was a Mayo Foundation fellow from 1929 to 1932.

◆ ◆

Cornell University
Medical College

Dr. John G. Kidd, associate member of the Rockefeller Institute for Medical Research, has been appointed professor of pathology and pathologist at New York Hospital. Dr. Kidd is a Johns Hopkins graduate (1932).

General News

Elizabeth Severance Prentiss Foundation

Funds estimated at more than eight million dollars have been left in trust by the late Mrs. Elizabeth Severance Prentiss for the advancement of medicine, health, art, music, education and religion through institutions in which she was interested for many years before her death, January 4. Thirty-seven per cent of the assets are to support the Elizabeth Severance Prentiss Foundation, which Mrs. Prentiss established on Jan. 17, 1939 with the provision that its existence remain undisclosed until after her death. The general objectives of the foundation, for which the National City Bank of Cleveland is trustee, are to promote medical and surgical research, to initiate and further activities in the field of public health, to aid hospitals and health institutions in Cuyahoga County, to improve methods of hospital administration and to aid in support of plans to make hospitalization and medical care available to all people, especially those of low income. The remainder of the income from trust assets reserved for the public welfare is to be divided as follows: The Cleveland Museum of Art will receive 25 per cent, the Musical Arts Association 10 per cent, Western Reserve University 7 per cent, Cleveland Museum of Health and Hygiene and Oberlin College each 5 per cent, the Cleveland School of Art and the Allen Memorial Medical Library each 3 per cent, the Church of the Covenant and the Board of Foreign Missions of the Presbyterian Church each 2 per cent and Berea College, Berea, Ky., 1 per cent. In accordance with Mrs. Prentiss's wishes, a separate fund will be in trust for each of these institutions, which will receive the income from the securities in such funds. Management of the Elizabeth Severance Prentiss Foundation will be entrusted to a board of managers named by Mrs. Prentiss when she created the foundation: John P. McWilliams, Cleveland, John A. Hadden, Cleveland Heights, Lewis B. Williams, Cleveland Heights, Robert F. Bingham, Shaker Heights, and Ralph S. Schmitt, Shaker Heights. While the foundation was set up by Mrs. Prentiss as a means of devoting a part of her fortune to the interest of health and the advancement of medical science, it provides an opportunity for any one who shares her interest in those objectives to leave money for those specific purposes. In establishing the foundation she expressed the request that at least 50 per cent of the income derived from her foundation gifts be paid to St. Luke's Hospital Association as long as its standards of service and administration are on a level prevailing in a first class hospital. She also directed that most of the foundation activities be carried on in Ohio and that at least 60 per cent of all disbursement be made within the state.

◆ ◆

Medical Replacement Training Center, Camp Barkeley, Texas

In a move designed ultimately to relieve thousands of medical officers for duties more demanding of their complete professional knowledge, the first six weeks class of the School for Medical Administrative Corps Officers began training in January.

Purpose of the school is to train the officers for the duties of Assistant Battalion Surgeons, serving in Battalion Aid Stations. Located a few hundred yards to the rear of the battalion in combat that it supports, the station receives and treats slight wounds and renders emergency treatment, such as the administration of blood plasma, to seriously wounded casualties. Its principal purpose is to supervise quick evacuation of the serious cases by litter to the rear. Under command of the Battalion Surgeon, each station is in the charge of an

Assistant Battalion Surgeon, who at present is a first lieutenant or captain, M. C.

Nearness of the station to the front lines and the limitation of equipment and personnel to a minimum so that the station is ready to move at a moment's notice with the battalion are factors that restrict work that a medical officer can do there. And while it is felt that his skill will be more fully used in larger installations to the rear, all the necessary treatment that can be done at the aid stations can be performed by other well-trained officers.

Properly trained in the technical, surgical and medical treatment of battle casualities, the MAC officer will be able to render effectively all the service that, under the tactical restrictions, has been performed in the past by the Medical Corps officers. It is emphasized, however, that the purpose is not to remove medical officers from the field, but by more effective distribution to better utilize their professional capabilities. At the same time the plan is designed to insure that prompt medical treatment may be given at the front and the all-important immediate evacuation.

As a result of their experience in the African campaign, the British have already put a similar plan into operation. Recognizing the great demand for available medical officers where definitive treatment may be rendered, many of their forwardmost medical installations have been successfully manned by other officers. This school, however, is the first of its kind designed by formal instruction to train officers specifically for this work.

In extremely concentrated form, the courses will include instruction only in technical, medical and surgical work, and that which will fit the officers for their duties at the aid stations.

The large majority of alloted hours will cover field medicine and surgery, with other subjects including sanitation and tactics, and shorter periods devoted to logistics and administration. The subjects will be treated practically, with as much application as possible. Classes in the field medicine course will include anatomy and physiology, bandaging and dressing, splints, emergency treatment, and miscellaneous hours will include transportation of casualties, transfusions, chemotherapy and penicillin, tropical diseases, immunization and the care of psychiatric casualties.

The school will be under direction of Brig. Gen. Roy C. Heflebower, Commanding General of the MRTC, commandant, and Lt. Col. August H. Groeschel, assistant commandant. Other classes are scheduled to begin in early Spring.

◆ ◆

The Passano Foundation

Establishment of The Passano Foundation, Incorporated, is announced by the Williams & Wilkins Company, Baltimore. Mr. E. B. Passano, for whom the Foundation is named, is Chairman of the Board of the Williams & Wilkins Company. He has been actively identified with the development of scientific publishing over a period of more than 35 years. The purpose of the Foundation as set forth in its charter is: "For scientific and educational purposes, particularly to provide for scientific research and to publish the results of scientific research and to make awards for meritorious achievements in scientific research."

Dr. Emil Novak, Associate in Gynecology in the Johns Hopkins University Medical School, and Dr. George Corner, Director of the Embryological Laboratory of the Carnegie Institution of Washington, are directors. Mr. Robert S. Gill, president of the Williams & Wilkins Company, has been elected President of the Foundation, and Mr. George Hart Rowe, of the Williams & Wilkins Company, is a director. Headquarters are at Mt. Royal and Guilford Avenues, Baltimore 2, Maryland.

By the terms of the charter of the Foundation, the Board of Directors may inaugurate the establishment of an annual award not to exceed $5,000 for the outstanding contribution to the advance-

ment of medical science made within the year by an American citizen.

A number of other projects are under consideration. One is the advancement of postgraduate instruction among physicians in sections of the country not accessible to medical centers in the larger cities.

As indicated, the declared purpose of the Foundation is broad and consideration will be given to any activity within its limits.

◆ ◆

Informational Service
National Research Council

Major General James C. Magee, surgeon general, retired, U. S. Army, has been appointed executive officer of this Service according to an announcement made by Professor Ross G. Harrison, chairman of the National Research Council. This service has been established under a grant of $75,000 made by Johnson and Johnson Research Foundation for the period ending June 30, 1945. The purpose of the grant is to enable the Council to assemble and disseminate, as far as possible, medical information pertaining to the war effort.

◆ ◆

M. D. Anderson Hospital
for Cancer Rsearch

The dedication ceremonies of this hospital were held in Houston, Texas, February 17, 1943. Officials of the State, of the University, its Board of Regents, and many specialists and persons engaged in the study of cancer problems spoke. The acting director of the hospital is Dr. E. W. Bertner. The M. G. Anderson Foundation made possible the founding and organization of the hospital. The immediate direction is by the University of Texas.

◆ ◆

School of Physical Therapy

A committee has been named to submit recommendations for the establishment of an institution for the study and teaching of physical therapy. The work will be financed with a grant of $25,000 from Bernard M. Baruch, who wishes to set up such a project as a memorial to his father, the late Dr. Simon Baruch, professor of hydrotherapy, Columbia University College of Physicans and Surgeons, New York. Dr. Ray Lyman Wilbur, chancellor of Stanford University, has been named chairman of the committee.

◆ ◆

Colonel Stanhope Bayne-Jones

Colonel Bayne-Jones has been appointed director of the United States of America Typhus Commission by the War Department, succeeding Brig. Gen. Leon Fox who asked to be relieved. Col. Bayne-Jones is also assistant director Preventive Medicine Division, Office of the Surgeon General, U. S. Army.

◆ ◆

Physical Medicine

The first center for the scientific study of physical medicine has been underwritten by the National Foundation for Infantile Paralysis to the extent of $150,000 for a five year period beginning January 1, 1944. The center will include a center for development of physical medicine as a scientific part of the practice of medicine; a training center for medical leaders and teachers in this branch of medicine, and a school for training technical workers. The center will be established at the University of Pennsylvania and will be under the general direction of Dr. R. C. Buerki, dean of the Graduate School of Medicine.

◆ ◆

Zeiler Memorial Fund

The A. Herman Zeiler Memorial Fund will be created under a resolution adopted at a meeting of the medical executive committee of the Cedars of Lebanon Hospital, Los Angeles, in honor of the late Dr. Zeiler, who was director of the laboratories, member of the medical executive committee and chief of staff of the hospital. The fund will be established by assessment from the members of the staff of the hospital and by contributions from colleagues and friends and will be used for research in pathology under the administration of the research committee of the hospital.

Book News

Principles and Practice of Aviation Medicine

By Harry G. Armstrong, M.D., Colonel, Medical Corps, U. S. Army. Ed. 2. The Williams & Wilkins Company, Baltimore. 1943. Price, $6.50.

Aviation Medicine tells what a flight surgeon must know about selection and care of the flier; about the effect of flight on man (physiologically and emotionally); and what remedies exist for adverse conditions.

Aviation medicine is presented as a distinct subject, not as a disconnected collection of several other medical specialties. The pathological conditions caused by aviation are shown to be definite clinical entities.

New information has been included on selection of flight surgeons, dark adaptation, aero-otitis media, false sensations in flight (especially in blind flight), pathology of acute altitude sickness, oxygen administration and inhalation, protection against effects of acceleration, war anxiety states in airmen (with case histories), aerial evacuation of emergency cases.

◆ ◆

Essentials of Dermatology

By Norman Tobias, M.D., Senior Instructor in Dermatology, St. Louis University School of Medicine. Ed. 2. J. B. Lippincott Company, Philadelphia. 1944. Price, $4.75.

A unique departure: The inside cover, front, and the next page set forth, boldly, the use of the sulphonamide drugs in dermatology. Very good. Physicians will appreciate the handy references. This edition has undergone a careful revision to bring it up to date. Military dermatology receives special attention. The book is of convenient size, complete nevertheless; one of the Lippincott "essential" series.

◆ ◆

White Blood Cell Differential Tables

By Theodore R. Waugh, M.D., C.M., Pathologist in Chief Royal Victoria Hospital; Associate Professor of Pathology, McGill University, Montreal. D. Appleton-Century Company, New York. 1943. Price, $1.50.

The author presents a series of 109 tables which permit computing rapidly and accurately, from differential percentages, the actual number of each type of white blood cell per cubic millimeter of blood. Very time saving and very accurate as a definite aid to diagnosis and prognosis.

The Johns Hopkins Hospital and the Johns Hopkins University School of Medicine: A Chronicle. Volume I: 1867-1893

By Alan M. Chesney, M.D., Associate Professor of Medicine and Dean of the Medical Faculty. Foreword by William H. Howell, Ph.D., formerly Professor of Physiology and Dean of the Medical Faculty. The Johns Hopkins Press, Baltimore. 1943. Price, $3.00.

Every one interested in medical education will be interested in this fine historical review of what may well be termed one of the essential "roots" of medical education in this country. The influence of the Johns Hopkins Medical School is acknowledged as having been a potent one in shaping medical education. And, this school was a weighty stimulus for all medical schools. Dr. Chesney has done a splendid piece of work in collecting the information contained in this volume and in being able to present so many interesting photographs of well known men who had so much to do with the founding and development of this medical school. Reading this book is a real pleasure.

◆ ◆

Applied Dietetics: The Planning and Teaching of Normal and Therapeutic Diets

By Frances Stern, Chief of Frances Stern Food Clinic, Boston Dispensary, Assistant in Medicine, Tufts College Medical School. Ed. 2. The Williams & Wilkins Company, Baltimore. 1943. Price, $4.

In four parts: Part I, develops each step in the construction of normal and therapeutic diets in relation to body needs. The effect of the relation of personality to food is emphasized. Part II is a series of tables which may be used with or without the text to simplify the computation of the diet. Part III comprises a series of dietary outlines for the treatment of various diseases or abnormal conditions. In Part IV, normal and therapeutic diets are computed to illustrate how the food prescription may be fulfilled.

◆ ◆

Synopsis of Obstetrics

By Jennings C. Litzenberg, M.D., Professor Emeritus of Obstetrics and Gynecology, University of Minnesota Medical School. Ed. 2. The C. V. Mosby Company, St. Louis. 1943. Price, $5.00.

For refresher purposes, this is excellent. The numerous illustrations should prove helpful. The author's reputation in this field is assurance that the book is good for the medical student or for the physician also.

Oral Pathology

By Kurt H. Thoma, D.M.D., Professor of Oral Surgery and Brackett Professor of Oral Pathology, Harvard University. Ed. 2. The C. V. Mosby Company, St. Louis. 1943. Price, $15.00.

Presenting a histological, roentgenological and clinical study of the diseases of the teeth, jaws and mouth; 1388 illustrations, including 128 in color. Of special value to the oral surgeon; encyclopedic.

◆ ◆

Minor Surgery

By Frederick Christopher, M.D., Associate Professor of Surgery, Northwestern University Medical School. Ed. 5. W. B. Saunders Company, Philadelphia. 1944. Price, $10.

"All minor surgery is potentially major surgery," says the author. He is right. In this volume he considers those conditions which comprise the large majority of surgical affections, including the surgery for the general practitioner, of the physician who does not have ready access to a large hospital or contact with surgical specialists, of the physician who has not qualified by further study to be able to lay claim to being a surgeon with certification, the resident surgeon and the surgical intern. This concept enhances the value of this book for the medical student since it does not give him opportunity to "surge" as so often is the case. The work is thoroughly revised to be up-to-date, even including penicillin and the employment of plaster casts in wound treatment, non-adherent pressure dressings and plasma administration in wound treatment.

◆ ◆

The Anatomy of the Female Pelvis: Including a Description of the Placenta and Its Formation and the Foetal Circulation

By C. F. V. Smout, M.B., Ch.B., M.R.C.S., L.R.C.P., Senior Lecturer and Acting Professor Department of Anatomy, University of Birmingham, Faculty of Medicine. With Sections on the Histology of the Female Reproductive Tract, and a chapter on Ovarian Endocrine Function by F. Jacoby, M.D., Ph.D., Lecturer in Histology, University of Birmingham. Foreword by Sir Beckwith Whitehouse, Professor of Midwifery and Diseases of Women, University of Birmingham. The Williams & Wilkins Company, Baltimore. 1943. Price, $8.

This book stresses cooperation in teaching between the so-called preclinical and the clinical subjects. It is concise; well illustrated in black and white and in color; supplies a well selected bibliography. Students will find it most useful.

DISEASES OF THE NOSE, THROAT AND EAR

Medical and Surgical

By the late WILLIAM L. BALLENGER, M.D., F.A.C.S.
and
HOWARD CHARLES BALLENGER, M.D., F.A.C.S.
Northwestern University School of Medicine, Chicago

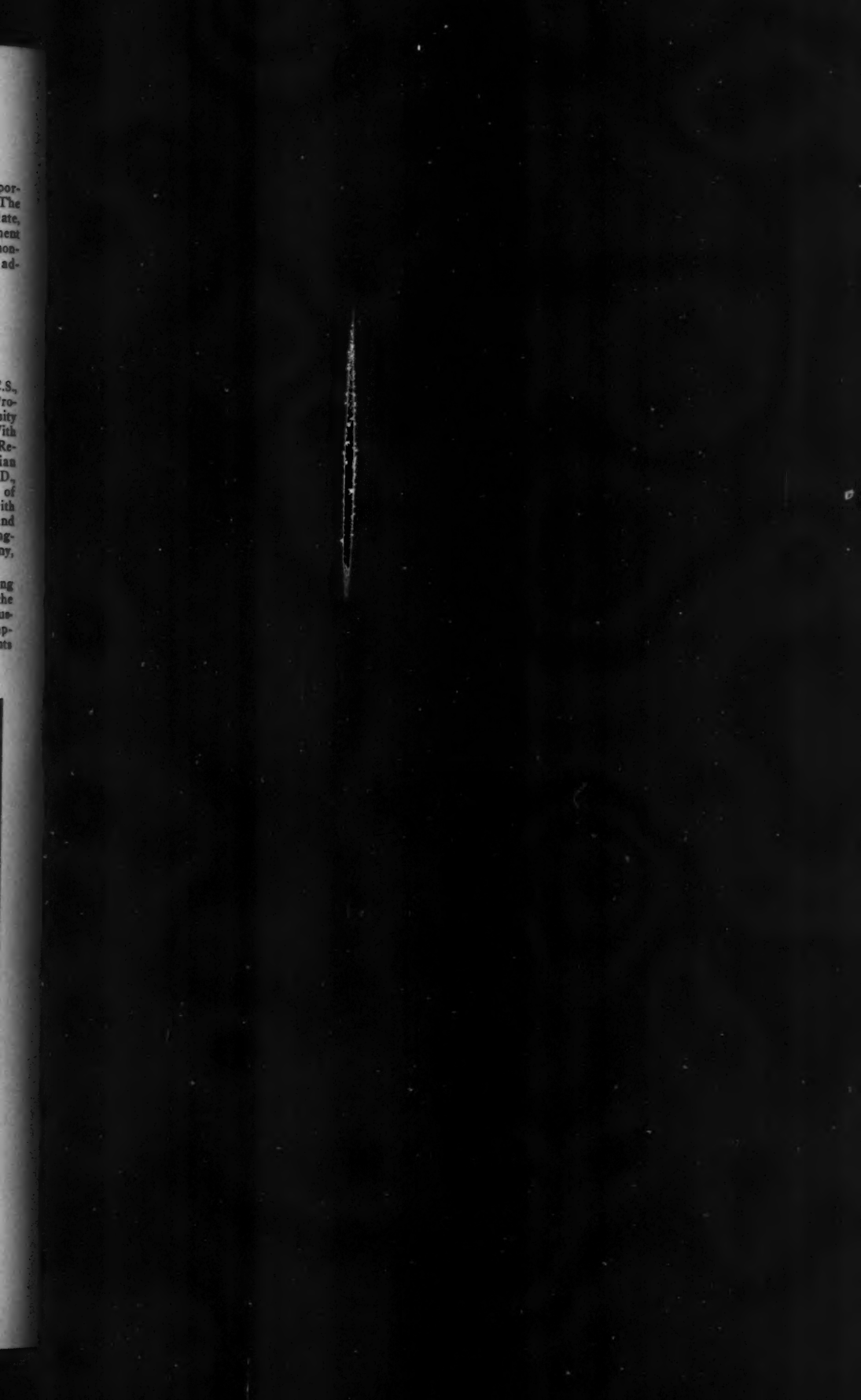
Eighth edition, thoroughly revised. Octavo, 975 pages, illustrated with 604 engravings and 27 plates, 25 in color. Cloth, $12.00.

For many years this work has held its place as the foremost text in its field. In this edition the material has been rearranged, partly rewritten and considerably expanded. Many illustrations have been replaced and obsolete and repetitious matter has been eliminated. Several specialists of national reputation have cooperated in the revision and amplification of the text.

A MANUAL OF OTOLOGY, RHINOLOGY AND LARYNGOLOGY

By HOWARD CHARLES BALLENGER, M.D., F.A.C.S.
Northwestern University School of Medicine, Chicago

Second edition. Octavo, 334 pages, illustrated with 114 engravings and 3 color plates. Cloth, $4.00.

The author, in this edition, has made radical changes in the arrangement of the material and has amplified the text to conform to present day knowledge and practice. The chapter on paralysis and neuroses of the larynx has been revised by Dr. John J. Ballenger. A new chapter has been added covering foreign bodies in the air passages and the technic for tracheotomy—an emergency measure of value to every general practitioner.

Washington Square **LEA & FEBIGER** Philadelphia 6, Pa.